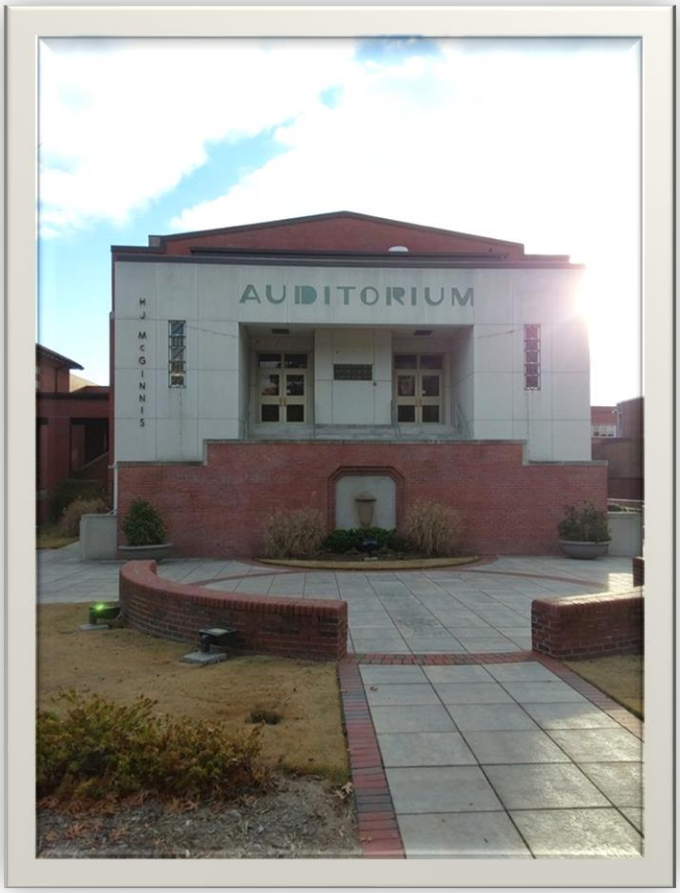
EAST CAROLINA UNIVERSITY

Facility Condition Assessment

McGinnis Auditorium
Asset 033

Inspected January 10, 2023



ISES CORPORATION

TABLE OF CONTENTS

FACILITY CONDITION ASSESSMENT

SECTION 1

ASSET OVERVIEW

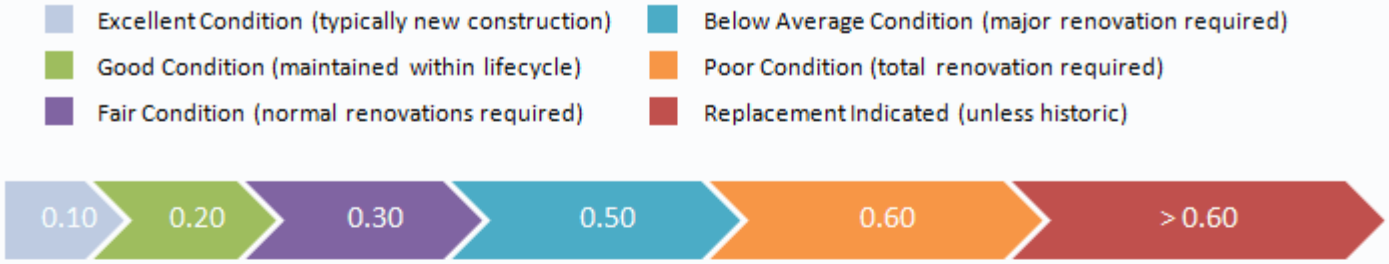
ASSET EXECUTIVE SUMMARY

All costs shown as Present Value

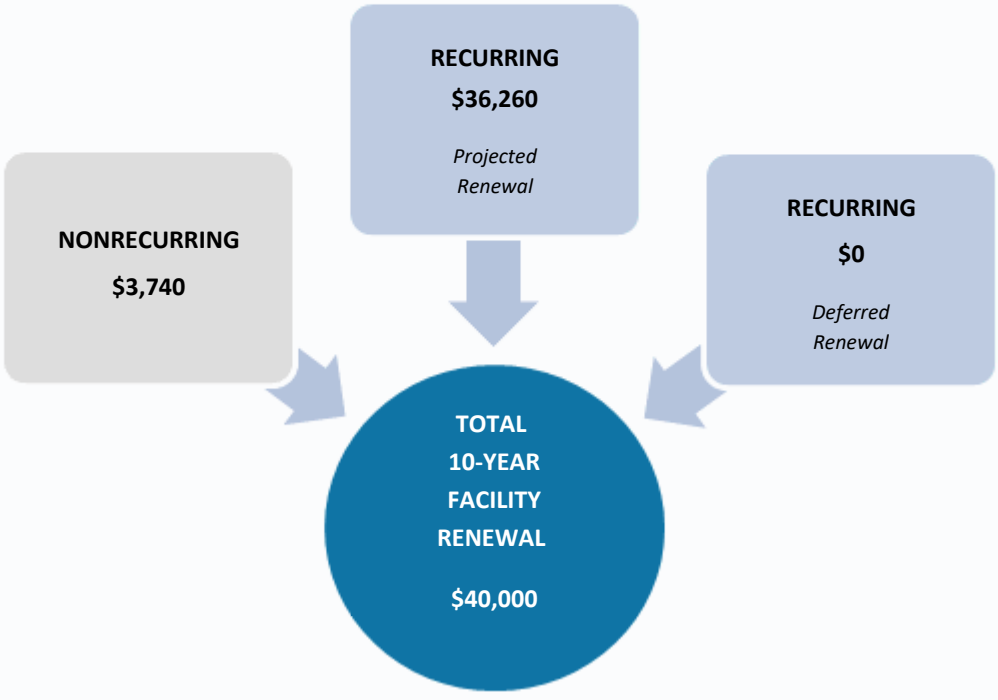
ASSET CODE	022A		
ASSET NAME	SANTOS MANUEL STUDENT UNION NORTH	**CURRENT REPLACEMENT VALUE**	$68,141,000
ASSET USE	Student Union	**FACILITY CONDITION NEEDS INDEX**	0.00
YEAR BUILT	2021	**FACILITY CONDITION INDEX**	0.00
GSF	119,974	**10-YEAR $/SF**	0.33
INSPECTION DATE	02/27/2023		

FCNI Scale

The FCNI for this asset is **0.00**



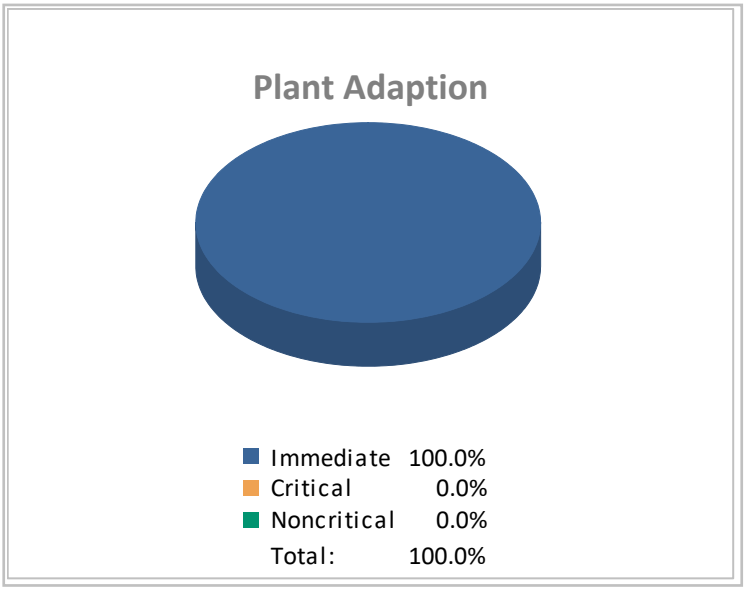
Total Facility Renewal Costs



Nonrecurring Costs

Project Cost by Priority

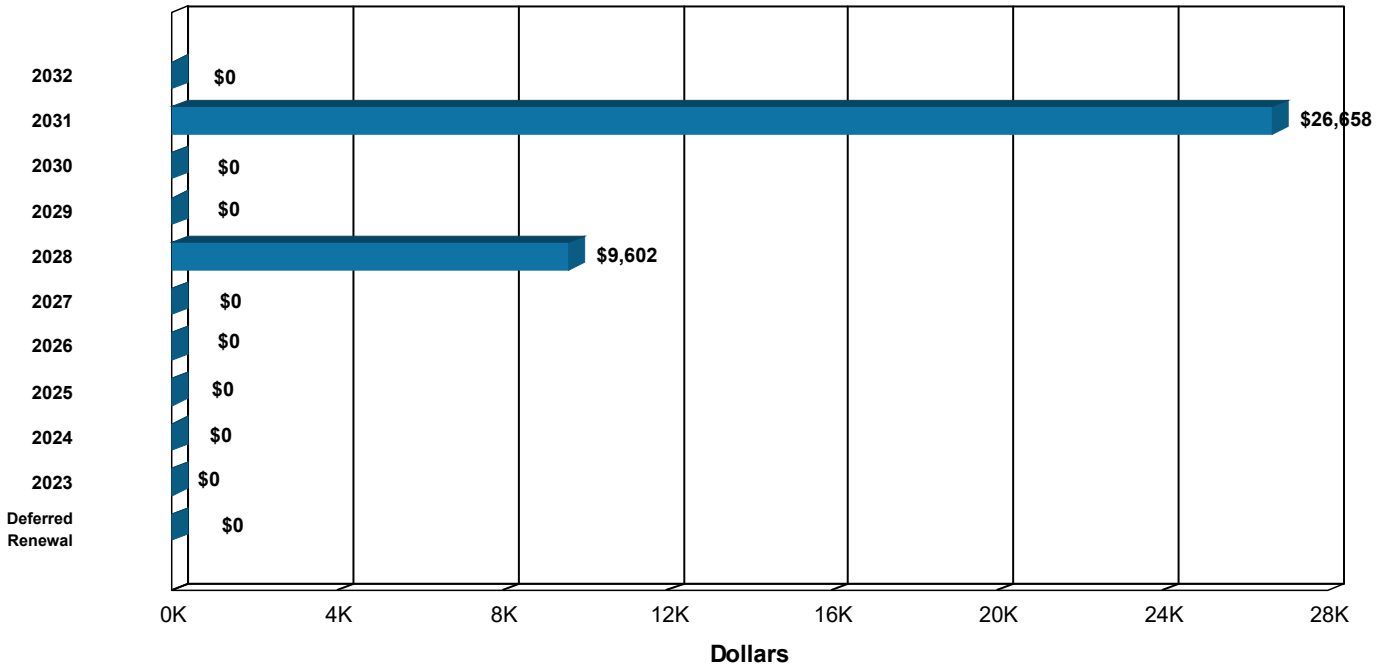
PLANT ADAPTION	
1 - Immediate	**$3,740**
2 - Critical	**$0**
3 - Noncritical	**$0**



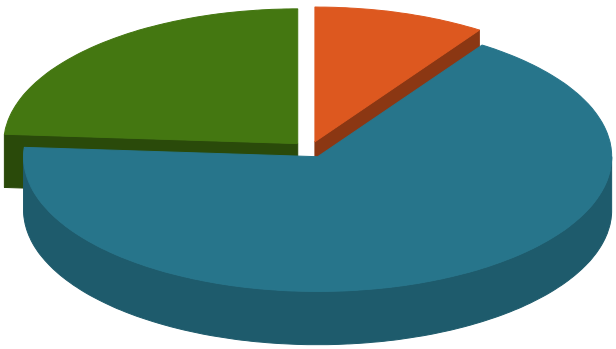
CORRECTIVE ACTION	
1 - Immediate	**$0**
2 - Critical	**$0**
3 - Noncritical	**$0**

Recurring Costs

Component Replacement Cost by Year



Facilities Renewal Cost by System



Accessibility	$0	0%
Electrical	$0	0%
Exterior	$0	0%
Fire/Life Safety	$3,740	9%
Health	$0	0%
HVAC	$0	0%
Interiors	$26,658	67%
Plumbing	$0	0%
Site	$9,602	24%
Vert. Trans.	$0	0%
TOTAL	**$40,000**	

ASSET SUMMARY

The McGinnis Theatre on the East Carolina University campus was constructed in 1951 and updated in 1982. This Modern International style facility includes three stories above-grade and a full basement. It is a graduated rectangular-shaped facility supported by a reinforced concrete basement foundation. Totaling 36,292 gross square feet, the facility is predominately utilized as a theater but also includes classrooms and dressing rooms.

Information for this report was gathered during a site visit that concluded on January 10, 2023.

Site

The building sits on a flat parcel of land and landscaping consists of ornamental planting beds, shrubbery, specimen trees, and areas of turf. Vehicular access is from the north via Beckwith Drive. The building has a parking lot north of the structure that leads to a sidewalk system serving all entrances. There is also a south service drive with a concrete service ramp. Concrete pedestrian walks and drives contain some cracking, as does the asphalt service drive. It is recommended that the cracks be sealed to prevent further ice jacking. Crack sealing followed by cyclical sealcoating and restriping is recommended to prevent further degradation of the asphalt. The slate pavers in front of the north entrance should outlast the scope of this report.

There is a stormwater drainage problem on the west entrance that causes flooding into the building. The construction of a storm drain and line is recommended to prevent water infiltration into the building.

Exterior Structure

The roof is comprised of flat and gabled sections. The flat shop section is covered with single-ply membrane roofing, while the gabled sections and stage roof have modified bitumen and terracotta clay tiles. The membrane roof is recommended for replacement while the modified bitumen roof will need replacement within ten years. The tile roof should outlast the scope of this report. Replace the stressed roofing and flashing with similar applications. The roof is equipped with a lightning protection system.

The exterior consists of brick and precast concrete panels. While the brick and concrete panels are fundamentally sound, exposure to the elements has caused some deterioration of the mortar and expansion joints. Cleaning, surface preparation, selective repairs, and applied finish or penetrating sealant upgrades are recommended to restore the aesthetics and integrity of the building envelope.

The metal-framed curtainwall systems have thermal-pane glazing and are deteriorated. It is recommended that these systems be upgraded. The main building entrance has anodized aluminum glass doors, while the secondary entrances have hollow-metal service doors. There is also an overhead door at the loading dock and wood doors with glass lites. The aluminum and glass doors, most of the

hollow-metal doors, and the overhead doors appear to be newer and will not need replacement at this time. The wooden exterior doors and the older hollow-metal doors should be replaced with newer, more efficient hollow-metal doors.

Interior Finishes/Systems

The wall finishes are generally painted sheetrock in fair condition, with minor damage and finish discoloration. There is also ceramic wall tile in the restrooms. Ceilings are a combination of painted sheetrock, suspended acoustical tile, and attached ceiling tile and are also in fair condition, with minor areas of damaged tile and discoloration. Floor finishes are typically carpet, vinyl tile, ceramic tile, or sealed and painted floors.

The ceramic tile floors are old and should be upgraded to newer tile. The vinyl tile shows signs of wear and damage and needs replacement. The padded carpet in the auditorium area and the hardwood stage floor should outlast the scope of this report. There are areas of water damage to the suspended acoustical tile in the Shop area that need to be repaired. The attached ceiling tile is suspected to contain asbestos and abatement prior to replacement is recommended in the Health section. Repainting of the ceilings, walls, and floors is required for cyclical maintenance. The interior casework is old and needs to be replaced. The older wood and hollow-metal interior doors will need to be replaced during the ten-year scope of this report. The restroom partitions are old and should be replaced with new high density polymer partitions.

Accessibility

The building has a shared parking lot with Messick Theatre Arts to the north and the north first floor entrance is wheelchair accessible. However, multiple exterior stairs have deficient or nonexistent guardrails and deficient handrails. Installation of compliant guardrails is recommended for the mechanical room entry, the south shop entry, the east shop entry, the areaway, and the shop connector. Installation of compliant handrails is also recommended for the mechanical room entry, the south shop entry, the east shop entry, the areaway, the building arcade, and the shop connector. Additionally, the exterior shop stair creates a collision hazard to those with vision impairments. The installation of a cane rail under the stair run is recommended to comply with ADAAG.

Inside the building, an elevator serves the first and second floors. However, the control systems are devoid of accessible features. It is recommended that the elevator controls be upgraded with a package consisting of a hands-free two-way telephone, Braille signage, and audible signals.

The restrooms on the first floor do not have accessible stalls or power door operators. Additionally, the showers in these restrooms are not accessible. A comprehensive remodel of these restrooms is required to meet ADA accessibility standards. Also, the two south restrooms do not have an accessible ADA stall. Since fixtures must be eliminated to accommodate an accessible stall, the creation of a unisex restroom is recommended.

The knob actuated door hardware is a barrier to accessibility. Accessibility legislation requires that door hardware be designed for operation by people with little or no ability to grasp objects with their hands. To comply with the intent of this legislation, it is recommended that lever handle hardware be installed on all doors that still have knobs.

The interior stairs lack compliant railing systems. It is recommended that noncompliant railings be upgraded with compliant guard and handrail systems and stair treads be upgraded with compliant treads with a grip surface.

There are five single-level drinking fountains on the first and second floors of the building. The single-level drinking fountain configuration is a barrier to accessibility and all single-level drinking fountains should be replaced with dual-level, refrigerated units.

The auditorium has multiple barriers to accessibility. First, there are no table seating spaces designated for wheelchair use. It is recommended that seats in each section be modified to accommodate persons in a wheelchair. Second, install transmitter and headphone receiver sets to accommodate those individuals that require audible assistance. Third, the stage is inaccessible, and it is recommended that a wheelchair lift be installed at the stage to provide adequate access. Finally, the ramps in the auditorium are devoid of supportive handrails. It is recommended that compliant painted metal handrails be installed.

Health

The costume area is suspected to have asbestos containing material (ACM) in the vinyl tile flooring and applied acoustic ceiling tiles. Testing and necessary abatement is recommended. Additionally, the heating water piping system and the potable water system are likely to be insulated with ACM. Prior to the removal or replacement of these systems, an abatement of the ACM will be necessary.

Multiple emergency eyewash/drench hose plumbing fixtures were observed to be in good condition. There are no recommendations.

Fire/Life Safety

The roof hatch is missing fall protection. Installation of fall protection is recommended to improve worker safety and limit liability.

This facility is protected by a central fire alarm system. Multiple fire alarm control panels were observed in rooms 101 and 111 for the main building and adjacent scene shop. The devices that serve this system include manual pull stations, audible/visible devices, and heat/smoke detectors. The fire alarm system is adequate and is in proper working condition, but the FACPs and devices will reach the end of their reliable life within the next five years and are recommended for renewal.

The auditorium, stage, and select areas on the first floor of the main building are protected by a comprehensive wet-pipe fire suppression system. The remainder of the facility is served by manual, dry

chemical fire extinguishers. There are no recommendations for the existing wet-pipe system. However, it is recommended that the unprotected areas of the facility be equipped with an automatic fire sprinkler system.

A dedicated six-inch fire water backflow preventer in room 135 was installed in 2008. This backflow device has reached the end of its reliable service life and is recommended for renewal.

HVAC

This facility is on the campus steam and chilled water loops. Low-pressure steam is provided to a shell-and-tube heat exchanger in room 126 that generates heating hot water. The hot water is circulated to air handlers and a fan coil by an electric pump. Ancillary equipment that supports the heating water system includes an air separator and expansion tank installed in 2018 that are in good condition. The pump and heat exchanger are recommended for renewal due to age.

An electric pump installed within mechanical room 126 circulates the chilled water throughout the facility. This pump was installed in 2018 and is in good condition with no recommendations.

This facility is served by a forced air HVAC system with single-zone, variable speed air handling units. The air handling units have hot water heating coils and chilled water-cooling coils. The air distribution network furnishes constant volume air to the occupied spaces. Uninsulated metal ductwork and an aged distribution piping system is installed throughout the main building and scene shop. Supplementary heat is provided to the mechanical spaces by hydronic unit heaters, Overall, the HVAC distribution system is aged and inefficient. The air handlers, return fans, unit heaters, variable speed drives, and fan coils are mostly operating well beyond their reliable service life. A complete redesign that incorporates a more efficient HVAC system such as variable air volume terminal assemblies or the like is recommended.

The controls for this system are a hybrid configuration with pneumatic temperature controls and direct digital utility modulation and monitoring that was retrofit in the last three years. The updated control and software system was manufactured by Trane and includes updated Belimo electric actuators on the air handlers, primary chilling, and primary heating water equipment. Reciprocating air compressors with refrigerated air dryers in room 126 and 127 support the system and are in good condition. Overall, the control system is vastly improved and in proper working condition, but reinvestment will be necessary in the next ten years as hardware components and the software package is subject to technological obsolescence within the industry.

Facility exhaust is achieved through the use of a typical rooftop centrifugal fan, through-wall propeller fans, and an inline axial fan in main mechanical room 126. A stainless-steel exhaust hood and associated through wall fan serve the steam jacketed kettle in room 113. This equipment is currently in proper working condition but the exhaust fan on the Scene Shop roof and the through wall fans serving rooms 111 and 128 require renewal due to age and condition.

It is recommended that a comprehensive duct collection system be installed within the first and second floors of the Scene Shop to support program activities.

Electrical

An exterior oil-filled transformer steps the incoming power down from 12,470 volts to 120/208 volts for building distribution. This transformer was assessed as part of a comprehensive campus wide electrical distribution survey. A main 2,000-amp switchboard manufactured by General Electric and installed in 1982 is in room 111. Additional switchboard assemblies that date to the construction of the facility were observed in room 112A. Overall, the main electrical distribution equipment is operating well beyond its statistical life and many of the molded case breakers observed are obsolete. Life extension has been applied due to regular maintenance and testing, but this equipment should all be considered for renewal due to age.

The 120/208-volt branch systems including wiring, switches, and outlets was largely installed in 1982 but some of the panelboards appear to be original. To maintain reliable service throughout the facility, it is recommended that the electrical distribution network be upgraded. A motor control center in room 126 was installed in 1990. This equipment is operating beyond its reliable service life and is recommended for renewal.

Emergency power is supplied by an exterior diesel-fired emergency generator that is rated for 18 kW and generates 120/208-volt power. An associated automatic transfer switch in room 111 was observed. This equipment is in proper working condition and there are no recommendations currently.

Interior lighting includes a combination of surface, recessed, and wall-mounted fixtures. The lighting system has been subject to an energy retrofit in the last five years which includes the installation of more modern, energy-efficient LED lamp packs. The interior lighting is currently serviceable but most of the system will require renewal within the next ten years due to age and condition. The new system should incorporate the emergency lighting system into the design and occupancy sensors with controls be installed throughout.

The exterior areas are illuminated by building-mounted, recessed, and ground level fixtures equipped with HID, LED, and some compact fluorescent lamps. These exterior light fixtures are mostly in proper condition but are aged and are recommended for renewal.

Plumbing

Potable water is distributed via a galvanized steel and copper piping network. Sanitary waste and stormwater piping is cast-iron, bell-and-spigot construction with galvanized steel runouts. The supply and drain piping networks are aged and should be replaced. Failure to undertake such upgrades will likely lead to leaks, drainage issues, and other problems that will require costly maintenance. Backflow devices in rooms 126 and 135 prevent contamination of the utility water supply and appear to be in proper working condition. While currently serviceable, this equipment is recommended for renewal due to age.

Domestic hot water is provided by electric water heaters in rooms 111 and 127. Both heaters are in proper working condition but the A.O. Smith water heater in room 111 will require renewal within the next ten years due to age.

Process systems are supported by multiple reciprocating air compressors and associated air dryers that are in proper working condition with no recommendations.

The restroom fixtures all appear to be newer low-flow applications, aside from the tank water closet in the stage area. They should outlast the scope of this report. The showers in the restrooms pose an accessibility barrier and are recommended for replacement in the Accessibility section.

Vertical Transportation

This facility is equipped with a hydraulic passenger elevator system in the main building and an additional hydraulic freight elevator in the Scene Shop. Both elevator systems, including the machines, are supported by an aged elevator machine with an outdated, solid-state, electromechanical control system. Both elevator systems need an update that includes renewal of the machines, controls, and an update to the cars.

Note: The renewal needs outlined in this report were identified from the visual inspection and staff interviews. Our professional architectural and engineering inspectors examined the accessible equipment and various building components to determine what repairs or modifications may be necessary to restore the systems and asset to an acceptable condition, or to a level defined by the Client. The estimated costs represent correction of existing deficiencies and anticipated lifecycle failures within a ten-year period. These recommendations are to bring the facility to modern standards without any anticipation of change to facility space layout or function. The total costs include variable project delivery costs as determined by the Owner. The costs developed do not represent the cost of a complete facility renovation. Soft costs not represented in this report include telecommunications, security, furniture, window treatment, space change, program issues, relocation, swing space, contingency, or costs that could not be identified or determined from the visual inspection and available building information.

INSPECTION TEAM DATA

Report Development

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Date of Inspection

January 10, 2023

Inspection Team Personnel

NAME	POSITION	SPECIALTY
Rob Camperlino	Facility Assessor	Mechanical, Electrical, Plumbing, Energy, Fire/Life Safety, Health
Noah Porter	Project Architect	Interior Finishes, Exterior Structure, ADA Compliance, Site, Fire/Life Safety, Health

Client Contact

NAME	POSITION
Griffin L. Avin, CEFP	Director of Facilities Services, Health Sciences Campus Chief Sustainability Officer

DEFINITIONS

The following information is a clarification of the Facility Condition Assessment report using example definitions.

Overview

Recurring and Nonrecurring Facility Renewal Costs

Facility renewal costs are divided into two main categories – recurring and nonrecurring. Recurring costs are cyclical and consist primarily of major repairs to or replacement/rebuilding of facility systems and components (e.g., roof or HVAC system replacement at or past the end of its normal useful life). The tool for projecting the recurring renewal costs is the Renewable Component Inventory, which is explained in detail below. Nonrecurring costs typically consist of modifications or repairs necessary to comply with fire/life safety or accessibility code requirements or to address isolated, nonrecurring deficiencies that could negatively affect the structure of the facility or the systems and components within. For these nonrecurring costs, projects have been developed and include estimated material and labor costs.

Facility Condition Needs Index (FCNI)

The FCNI provides a lifecycle cost comparison. It is a ratio of the sum of the recurring and nonrecurring renewal costs over ten years to the current replacement value of the asset. The current replacement value is based on replacement with current construction standards for the facility use type, and not original design parameters. This index gives the university a comparison within all buildings for identifying worst case/best case building conditions.

$$\text{FCNI} = \frac{\text{Nonrecurring Projects + 10-Year Recurring Component Renewal}}{\text{Current Replacement Value}}$$

Facility Condition Index (FCI)

The FCI is a ratio of the Deferred Renewal costs to the current replacement value.

$$\text{FCI} = \frac{\text{Deferred Renewal}}{\text{Current Replacement Value}}$$

Material and Labor Cost Factors and Additional Markups

The project costs are adjusted from the national averages to reflect conditions in Greenville using the R. S. Means City Cost Index for material and labor cost factors. The percentage adjustment of the national average is shown in the table below. Also included in the renewal costs are the construction markup (general contractor profit and overhead, construction management, permitting, accounting, site security, insurance, bonds, sales tax, institutional fees, site utilities, refuse fees, and insurance) and professional fees (architect or engineer design fees and in-house design costs).

GLOBAL MARKUP	%
Local Labor Index	71.3
Local Materials Index	100.7
Construction Markup	20.0
Professional Fees	16.0

Recurring Costs

Renewable Component Inventory and Cost Projections

The Renewable Component Inventory (starting on page 4.1.1) is based on industry standard lifecycle expectancies applied to an inventory of major systems and components within a facility. Each indicated component has the following associated information:

CATEGORY	DESCRIPTION
Component Code	A four-digit code assigned by AMS to the component
Component Description	Description of the individual component
Identifier	Identifying information can be entered as necessary.
Customer ID	Customer-provided equipment ID number
Location	The location of each component can be entered if applicable.
Quantity	The quantity of the listed component
Units	The unit of measure associated with the quantity
Complexity Factor	Adjusts the component replacement costs when it is anticipated that the actual cost will deviate from the average for that component
Total Cost	The unit cost multiplied by quantity, in today's dollars (note that this is a one-time renewal/replacement cost)
Install Date	This is the year that the component was or is estimated to have been installed. When this data is not available, the default is the year the asset was constructed.
Useful Life	Average life expectancy of the component
Useful Life Adjustment	An optional adjustment that lengthens or reduces the first lifecycle of the component
Replacement Year	Expresses when the next replacement should occur and is the sum of the install date, useful life, and any useful life adjustment

The component listing forms the basis of the Recurring Costs by Year report, which provides a year-by-year list of projected recurring renewal costs (in future year dollars) over the next ten years. Each individual component is assigned a replacement year based on lifecycles. For items already past the end of their lifecycle, the replacement year is shown as Deferred Renewal.

For a longer term perspective, the Recurring Component Expenditure Projections Graph presents recurring renewal cost projections over a 50-year period (starting from the date the report is run) based on each individual item's renewal cost and life span. Some components might require renewal several times within the 50-year model, while others might not occur at all. The vertical bars on the graph represent the accumulated total costs for each individual year. The average annual cost per gross square foot ($/GSF) is shown at the bottom of the graph. In this calculation, costs are not escalated. This figure can be utilized to assess the adequacy of existing capital renewal and repair budgets.

Recurring Cost Classifications

- Deferred Renewal
  Recurring repairs, generated by the Renewable Component Inventory, that are past due for completion and have not yet been accomplished as part of normal maintenance or capital repair efforts. Further deferral could impair the proper functioning of the facility. Deferred Renewal upgrades should include compliance with applicable codes, even if such compliance requires expenditures beyond those essential to effect the needed repairs.

- Projected Renewal
  Recurring renewal efforts, generated by the Renewable Component Inventory, that will be due within the scope of the assessment. These are regular or normal facility maintenance, repair, or renovation efforts that should be planned in the near future.

Nonrecurring Costs

As previously mentioned, modifications or repairs necessary to comply with fire/life safety or accessibility code requirements and those that address isolated, nonrecurring deficiencies that could negatively affect the structure of the facility or the systems and components within are not included in the Renewable Component Inventory. For each such deficiency identified during the facility inspection, a project with an estimated cost to rectify said deficiency is recommended. These projects each have a unique identifier and are categorized by system type, priority, and classification, which are defined below. The costs in these projects are also indexed to local conditions and markups applied as the situation dictates.

Project Number

Each project has a unique number consisting of three elements, the asset identification number, system code, and a sequential number assigned by the FCA software. For example, the third fire/life safety project identified for asset 0001 would have a project number of 0001FS03 (0001 for the asset number, FS for fire/life safety, and 03 being the next sequential number for a fire/life safety project).

Project Classifications

- Plant Adaption
  Nonrecurring expenditures, stored in the Projects module, required to adapt the physical plant to the evolving needs of the institution and to changing codes or standards. These are expenditures beyond normal maintenance. Examples include compliance with changing codes (e.g., accessibility), facility alterations required by changing teaching or research methods, and improvements occasioned by the adoption of modern technology (e.g., the use of personal computer networks).

- Corrective Action
  Nonrecurring expenditures, stored in the Projects module, for repairs needed to correct random and unpredictable deficiencies. Such projects are not related to aligning a building with codes or standards. Deficiencies classified as Corrective Action could have an effect on building aesthetics, safety, or usability.

Priority Classes

Recurring renewal needs do not receive individual prioritization, as the entire data set of needs in this category is year-based. Each separate component has a distinct need year, rendering further prioritization unnecessary. Each nonrecurring renewal project, however, has a priority assigned to indicate the criticality of the recommended work. The prioritization utilized for this subset of the data is as follows.

- Priority 1 – High

  Items in this category include:

  a. correcting a cited safety hazard
  b. stopping accelerated deterioration
  c. returning a facility to normal operation

- Priority 2 – Medium

  Items in this category include:

  a. repairs to prevent further deterioration
  b. improvements to facility approach/entry and access to goods and services (DOJ ADA title III, priorities 1 and 2)
  c. correction of potential safety hazards

- Priority 3 – Low

  Items in this category include:

  a. improving access to restrooms and other amenities (DOJ ADA title III, priorities 3 and 4)

  b. bringing a facility into compliance with current building codes as grandfather clauses expire

  c. increasing usability following an occupancy or use change

  d. actions that are recommended but not required by code

Project Subclass

Subclass ratings are assigned to accessibility upgrade activities based on the four Department of Justice priority rankings recommended by the Title III regulations for planning readily achievable barrier removal projects. These ratings are:

- DOJ1 Accessible approach and entrance
- DOJ2 Access to goods and services
- DOJ3 Access to restrooms
- DOJ4 Any other necessary measures

Category Codes

CATEGORY CODE*	SYSTEM DESCRIPTION
AC1A – AC4B	ACCESSIBILITY
EL1A – EL8A	ELECTRICAL
ES1A – ES6E	EXTERIOR STRUCTURE
FS1A – FS6A	FIRE/LIFE SAFETY
HE1A – HE7A	HEALTH
HV1A – HV8B	HVAC
IS1A – IS6D	INTERIOR FINISHES/SYSTEMS
PL1A – PL5A	PLUMBING
SI1A – SI4A	SITE
VT1A – VT7A	VERTICAL TRANSPORTATION

Example: **Category Code = EL5A**	
EL	System Description
5	Component Description
A	Element Description

Priority Sequence

A Priority Sequence number is automatically assigned to each project to rank the projects in order of relative criticality and show the recommended execution order. This number is calculated based on the Priority Class and identified system of each project.

Example			
Priority Class	**Category Code**	**Project Number**	**Priority Sequence**
1	HV2C	0001HV04	01
1	PL1D	0001PL02	02
2	IS1E	0001IS06	03
2	EL4C	0001EL03	04

Drawings

Floor plans for this facility are provided as a reference.

Photographs

A code shown on the Photo Log identifies the asset number, photo sequence, and a letter designation for architect (a) or engineer (e).

Example: **Photo Number: 0001006e**	
0001	Asset Number
006	Photo Sequence
e	Engineering Photo

Sustainability/Energy Analysis

Energy/resource conservation measures (ECMs) are recommendations that will reduce resource consumption or the rate of growth in consumption. Examples include improving the efficiency of an HVAC system (e.g., digital motor speed controls, exhaust energy recovery, retrocommissioning) or directly reducing the consumption of a resource (e.g., low flow plumbing fixtures, high-efficiency lighting, or structural insulation improvement). Where significant conservation opportunities are evident for this facility, ECMs are identified and tabulated in Section 7 as a basis for further viability investigation.

FACILITY CONDITION ASSESSMENT

SECTION 2

COST SUMMARIES AND TOTALS

RENEWAL NEEDS MATRIX

All dollars shown as Present Value

CATEGORY	NONRECURRING PROJECT NEEDS			RECURRING COMPONENT REPLACEMENT NEEDS											
	Immediate	Critical	Noncritical	Deferred Renewal	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	TOTAL
ACCESSIBILITY	0	339,579	17,021	0	0	0	0	0	0	0	0	0	0	0	$356,600
EXTERIOR	0	0	799,917	1,895,453	0	0	5,706	0	29,338	0	0	0	0	120,204	$2,850,618
INTERIOR	0	0	82,651	246,305	0	0	0	0	130,522	0	6,733	0	62,100	0	$528,312
PLUMBING	0	0	0	4,152	720,568	0	0	2,816	0	0	0	0	16,379	0	$743,916
HVAC	0	0	17,369	0	1,864,477	0	0	0	0	275,621	0	65,308	0	0	$2,222,774
FIRE/LIFE SAFETY	0	2,289	320,762	0	0	0	0	0	0	186,256	0	0	0	0	$509,306
ELECTRICAL	0	0	0	0	1,449,788	0	279,834	0	334,394	10,709	0	0	154,890	0	$2,229,616
SITE	0	0	4,721	120	0	0	0	2,279	0	0	0	0	0	0	$7,120
VERT. TRANS.	0	0	0	0	855,526	0	0	0	0	0	0	0	0	0	$855,526
HEALTH/EQUIP.	0	55,648	3,002	0	0	0	0	0	0	0	0	0	0	0	$58,650
SUBTOTAL	$0	$397,516	$1,245,442	$2,146,030	$4,890,359	$0	$285,540	$5,095	$494,254	$472,586	$6,733	$65,308	$233,370	$120,204	$10,362,437
TOTAL NONRECURRING PROJECT NEEDS			$1,642,958	TOTAL RECURRING COMPONENT REPLACEMENT NEEDS										$8,719,480	

CURRENT REPLACEMENT VALUE	$21,277,000
FACILITY CONDITION NEEDS INDEX	0.49
FACILITY CONDITION INDEX	0.10

GSF	TOTAL 10-YEAR FACILITY RENEWAL NEEDS	10-YEAR NEEDS/SF
36,292	$10,362,437	$285.53

RENEWAL NEEDS BY SYSTEM

All costs shown as Present Value

CATEGORY	NONRECURRING PROJECT COSTS	RECURRING COMPONENT REPLACEMENT COSTS	TOTAL 10-YEAR FACILITY RENEWAL COSTS
ACCESSIBILITY	$356,600	$0	$356,600
EXTERIOR	$799,917	$2,050,701	$2,850,618
INTERIOR	$82,651	$445,661	$528,312
PLUMBING	$0	$743,916	$743,916
HVAC	$17,369	$2,205,406	$2,222,774
FIRE/LIFE SAFETY	$323,050	$186,256	$509,306
ELECTRICAL	$0	$2,229,616	$2,229,616
SITE	$4,721	$2,399	$7,120
VERT. TRANS	$0	$855,526	$855,526
HEALTH	$58,650	$0	$58,650
TOTALS	**$1,642,958**	**$8,719,480**	**$10,362,437**

FACILITIES RENEWAL PLAN

RECURRING COMPONENT REPLACEMENT COSTS

All costs shown as Present Value

ASSET CODE	COMP CODE	COMPONENT	IDENTIFIER	CUSTOMER ID	LOCATION	UNI-FORMAT	REPLACEMENT YEAR	REPLACEMENT COST
033	WN01	GLASS, WINDOW, ALUMINUM OR WOOD, STANDARD	STEEL STATIONARY		STAIR TOWERS	B2010	Deferred Renewal	1,824,449
033	DR10	DOOR AND FRAME, EXTERIOR, SWINGING, WOOD PANEL	WOOD WITH GLASS		110	B2030	Deferred Renewal	5,452
033	DR30	DOOR OPERATOR, OVERHEAD DOOR, COMMERCIAL, PADS	COILING STEEL		EAST ELEVATION	B2030	Deferred Renewal	2,558
033	RR03	ROOF - 1-PLY, ADHERED (EPDM, PIB, CSPE, PVC)	EPDM		ROOF	B3010	Deferred Renewal	62,994
033	IW14	TOILET PARTITION WITH ACCESSORIES	STEEL PARTITIONS		108, 105, 128, 129, 2-E-4	C1010	Deferred Renewal	43,900
033	DR01	DOOR AND FRAME, INTERIOR, NON-RATED	OLD WOOD		MOST AREAS	C1020	Deferred Renewal	36,482
033	DR24	DOOR LOCK, COMMERCIAL-GRADE	FULL HEIGHT HM		SHOP CONNECTOR	C1020	Deferred Renewal	7,171
033	DR26	DOOR PANIC HARDWARE	WOOD WITH GLASS		110	C1020	Deferred Renewal	2,933
033	CW01	CASEWORK - WOOD BASE AND WALL, TOP, STANDARD	LOBBY CASEWORK		202	C1030	Deferred Renewal	9,738
033	IF03	FLOORING - VINYL COMPOSITION TILE, STANDARD	9X9 ACM		112, 119	C3020	Deferred Renewal	4,552
033	IF03	FLOORING - VINYL COMPOSITION TILE, STANDARD	12X12 TILE		125, 127, 122, 110	C3020	Deferred Renewal	86,485
033	IF08	FLOORING - TILE, CERAMIC / STONE / QUARRY ECONOMY	1X ECON TILE		RESTROOMS	C3020	Deferred Renewal	23,276
033	IC03	CEILING FINISH - ATTACHED ACOUSTICAL TILE	9X9 ACM			C3030	Deferred Renewal	5,769
033	IC04	CEILING FINISH - PAINTED OR STAINED, STANDARD	STD PAINT		115, 209, STAIR TOWERS	C3030	Deferred Renewal	25,999
033	FX08	PLUMBING FIXTURE - SHOWER VALVE AND HEAD	NON ADA KNOB		129, 128	D2010	Deferred Renewal	4,152
033	SI01	CONCRETE PEDESTRIAN PAVING - JOINT MAINTENANCE	CONCRETE WALKS		ALL ELEVATIONS	G2030	Deferred Renewal	120

FACILITIES RENEWAL PLAN

RECURRING COMPONENT REPLACEMENT COSTS

All costs shown as Present Value

ASSET CODE COMP CODE		COMPONENT	IDENTIFIER	CUSTOMER ID	LOCATION	UNI-FORMAT	REPLACEMENT YEAR	REPLACEMENT COST
033	VT03	ELEVATOR MODERNIZATION - HYDRAULIC	FREIGHT	11207	128	D1010	2023	363,640
033	VT03	ELEVATOR MODERNIZATION - HYDRAULIC	PASSENGER	11208	103	D1010	2023	363,640
033	VT04	ELEVATOR CAB RENOVATION - PASSENGER	FREIGHT	11207	SCENE SHOP	D1010	2023	64,123
033	VT04	ELEVATOR CAB RENOVATION - PASSENGER	PASSENGER	11208	PASSENGER ELEVATOR	D1010	2023	64,123
033	BF01	BACKFLOW PREVENTER (<=1 INCH)	WATTS, 3/4 INCH, BYPASS		135	D2020	2023	1,263
033	BF03	BACKFLOW PREVENTER (2-3 INCHES)	AMES, 2 1/2 INCH, DW		135	D2020	2023	9,285
033	BF03	BACKFLOW PREVENTER (2-3 INCHES)	AMES, 2 1/2 INCH, DW		135	D2020	2023	9,285
033	BF05	BACKFLOW PREVENTER (4-6 INCHES)	AMES, 6 INCH, FIRE		135	D2020	2023	15,366
033	PS22	SUPPLY PIPING SYSTEM - THEATER	SUPPLY PIPE		BUILDING WIDE	D2020	2023	273,111
033	PD22	DRAIN PIPING SYSTEM - THEATER	WASTE PIPE		BUILDING WIDE	D2030	2023	412,258
033	HU53	UNIT HEATER, STEAM/HYDRONIC STD (TO 250 MBH)	TRANE UH		126	D3020	2023	1,346
033	HU53	UNIT HEATER, STEAM/HYDRONIC STD (TO 250 MBH)	TRANE UH		126	D3020	2023	1,346
033	AH02	AIR HANDLING UNIT - INDOOR (1.25-1.75 HP)	033-AHU-016	11195	127	D3040	2023	13,314
033	AH02	AIR HANDLING UNIT - INDOOR (1.25-1.75 HP)	FCU F-3		DIMMER ROOM (214)	D3040	2023	13,314
033	AH04	AIR HANDLING UNIT - INDOOR (2.75-3.25 HP)	033-AHU-015	11194	127	D3040	2023	29,647
033	FN19	FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (20"-22" DIAMETER)	DAYTON		ROOF	D3040	2023	7,711

FACILITIES RENEWAL PLAN

RECURRING COMPONENT REPLACEMENT COSTS

All costs shown as Present Value

ASSET CODE	COMP CODE	COMPONENT	IDENTIFIER	CUSTOMER ID	LOCATION	UNI-FORMAT	REPLACEMENT YEAR	REPLACEMENT COST
033	FN25	FAN - PROPELLER WITH LOUVER, 1/4" SP (<=0.5 HP)	NUTONE		111	D3040	2023	789
033	FN26	FAN - PROPELLER WITH LOUVER, 1/4" SP (.5-1 HP)	EF		128	D3040	2023	3,337
033	HV22	HVAC DISTRIBUTION NETWORKS - THEATER	METAL DUCT		BUILDING WIDE	D3040	2023	1,767,143
033	HX05	HEAT EXCHANGER - SHELL & TUBE STEAM TO WATER (>85 GPM)	SHELL AND TUBE HEX		126	D3040	2023	17,701
033	PH01	PUMP - ELECTRIC (<=10 HP)	HW PUMP		126	D3040	2023	5,942
033	BA68	HVAC CONTROLS - MAJOR INSTRUMENTATION - THEATER	SCENE SHOP MAJOR INST.		ROOM 127	D3060	2023	2,887
033	MC03	MOTOR CONTROL CENTER VERTICAL SECTION, 600V (600-800A) W/STARTERS	GE MCC		126	D5010	2023	151,159
033	SE22	ELECTRICAL DISTRIBUTION NETWORK - THEATER			BLDG WIDE	D5010	2023	1,017,705
033	SG02	MAIN SWITCHBOARD W/BREAKERS (400-600 AMP)	WESTINGHOUSE		112A	D5010	2023	37,390
033	SG02	MAIN SWITCHBOARD W/BREAKERS (400-600 AMP)	MDP1A		111	D5010	2023	37,390
033	SG02	MAIN SWITCHBOARD W/BREAKERS (400-600 AMP)	2MDPE		101	D5010	2023	46,737
033	SG02	MAIN SWITCHBOARD W/BREAKERS (400-600 AMP)	TRUMBULL ELEC		112A	D5010	2023	56,085
033	SG03	MAIN SWITCHBOARD W/BREAKERS (600-800 AMP)	PANEL EM-1		111	D5010	2023	69,152
033	VF01	VARIABLE FREQUENCY DRIVE (<=5 HP)	AHU SF VFD		127	D5010	2023	1,265
033	VF03	VARIABLE FREQUENCY DRIVE (7.5-10 HP)	AHU-002 RF VFD		126	D5010	2023	4,783
033	VF05	VARIABLE FREQUENCY DRIVE (15-20 HP)	AHU-002 SF VFD		126	D5010	2023	22,575
033	LE03	LIGHTING - EXTERIOR, RECESSED (INC, CFL, LED)	RECESSED FOOT		EXTERIOR	D5020	2023	565

FACILITIES RENEWAL PLAN

RECURRING COMPONENT REPLACEMENT COSTS

All costs shown as Present Value

ASSET CODE	COMP CODE	COMPONENT	IDENTIFIER	CUSTOMER ID	LOCATION	UNI-FORMAT	REPLACEMENT YEAR	REPLACEMENT COST
033	LE03	LIGHTING - EXTERIOR, RECESSED (INC, CFL, LED)	RECESSED		MAIN ENTRY AND COVERED WALK	D5020	2023	1,412
033	LE07	LIGHTING - EXTERIOR, WALL FLOOD (SV, MH, ID, LED)	SURFACE, HID		EXTERIOR	D5020	2023	1,190
033	LE07	LIGHTING - EXTERIOR, WALL FLOOD (SV, MH, ID, LED)	SURFACE, SINGLE BULB		EXTERIOR	D5020	2023	2,380
033	RR29	ROOF HATCH - ACCESS			ROOF	B3020	2025	5,706
033	LI02	LIGHTING SYSTEM, INTERIOR - CLASSROOM	SURFACE, PENDANT, LED RETRO		BUILDING WIDE	D5020	2025	279,834
033	BF02	BACKFLOW PREVENTER (1-2 INCHES)	AHU-001 BF		126	D2020	2026	2,816
033	SI06	ASPHALT VEHICULAR PAVING - SEALCOAT AND STRIPE	ASPHALT		SERVICE ROAD	G2020	2026	2,279
033	DR08	DOOR AND FRAME, EXTERIOR, SWINGING, HOLLOW METAL	FULL HEIGHT HM		SHOP CONNECTOR	B2030	2027	29,338
033	DR02	DOOR AND FRAME, INTERIOR, FIRE-RATED	OLD WOOD		MOST AREAS	C1020	2027	126,022
033	DR02	DOOR AND FRAME, INTERIOR, FIRE-RATED	OLD HM		209	C1020	2027	4,501
033	SG04	MAIN SWITCHBOARD W/BREAKERS (800-1200 AMP)	DIMMER PANEL		DIMMER ROOM (214)	D5010	2027	71,019
033	SG06	MAIN SWITCHBOARD W/BREAKERS (1600-2500 AMP)	MAIN SW. BOARD		111	D5010	2027	199,931
033	SG11	MC SWGR BREAKER - FME Adjustable (600-800 AMP)	MAIN BREAKER		111	D5010	2027	63,444
033	AH07	AIR HANDLING UNIT - INDOOR (9-12 HP)	033-AHU-001		126	D3040	2028	98,239
033	AH09	AIR HANDLING UNIT - INDOOR (17-23 HP)	033-AHU-002		126	D3040	2028	156,817

FACILITIES RENEWAL PLAN

RECURRING COMPONENT REPLACEMENT COSTS

All costs shown as Present Value

ASSET CODE COMP CODE		COMPONENT	IDENTIFIER	CUSTOMER ID	LOCATION	UNI-FORMAT	REPLACEMENT YEAR	REPLACEMENT COST
033	FN34	FAN - UTILITY SET, 1/4" SP (4-12 HP)	RETURN AIR FAN #5		126	D3040	2028	20,565
033	FA01	FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER	SCENE SHOP FACP		101	D4030	2028	2,278
033	FA01	FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER	BUILDING FACP		111	D4030	2028	18,227
033	FA02	FIRE ALARM SYSTEM - DEVICES	DETECTORS, NOTIFIERS		BUILDING WIDE	D4030	2028	165,751
033	LE07	LIGHTING - EXTERIOR, WALL FLOOD (SV, MH, ID, LED)	SURFACE, LED		EXTERIOR	D5020	2028	4,760
033	LE07	LIGHTING - EXTERIOR, WALL FLOOD (SV, MH, ID, LED)	SPOT LIGHT, UPWARD		SITE	D5020	2028	5,950
033	IF15	FLOORING - FLUID APPLIED, PAINT OR CLEAR SEAL			209	C3020	2029	6,733
033	FN02	FAN - AXIAL, RETURN, 1.5" SP (3-5 HP) 13,200 CFM	RF		126	D3040	2030	8,772
033	BA25	HVAC CONTROLS - FIELD PANELS/OPS SOFTWARE - CLASSROOM	CONTROL PANELS AND SOFTWARE		BUILDING WIDE	D3060	2030	37,849
033	BA48	HVAC CONTROLS - MAJOR INSTRUMENTATION - CLASSROOM	CLASSROOM MAJOR INST.		BUILDING WIDE	D3060	2030	12,913
033	BA68	HVAC CONTROLS - MAJOR INSTRUMENTATION - THEATER	THEATER MAJOR INST.		AUDITORIUM AND STAGE	D3060	2030	5,775
033	IW01	WALL FINISH - PAINT, STANDARD	STD PAINT		MOST AREAS	C3010	2031	62,100
033	WH13	WATER HEATER - COMMERCIAL, ELECTRIC (70-90 GAL)	AO SMITH		111	D2020	2031	16,379
033	LI22	LIGHTING SYSTEM, INTERIOR - THEATER			AUDITORIUM AND STAGE	D5020	2031	154,890
033	RR07	ROOF - BITUMINOUS, 2-PLY, APPLIED MODIFIED BITUMEN, TORCH	MOD BIT		ROOF	B3010	2032	120,204

FACILITIES RENEWAL PLAN

RECURRING COMPONENT REPLACEMENT COSTS

All costs shown as Present Value

ASSET CODE COMP CODE	COMPONENT	IDENTIFIER	CUSTOMER ID	LOCATION	UNI-FORMAT	REPLACEMENT YEAR	REPLACEMENT COST
						TOTAL	$8,719,480

FACILITIES RENEWAL PLAN

NONRECURRING PROJECT COSTS

All costs shown as Present Value

PROJECT NUMBER	PROJECT TITLE	UNI-FORMAT	PRIORITY CLASS	PROJECT CLASSIFICATION	PROJECT COST
033AC01	UPGRADE ELEVATOR ACCESSIBILITY	C1010	2	Plant Adaption	15,533
033AC03	AUDITORIUM ACCESSIBILITY UPGRADES	C1010	2	Plant Adaption	66,600
033AC04	INTERIOR DOOR ACCESSIBILITY UPGRADES	C1010	2	Plant Adaption	40,336
033AC05	RESTROOM ACCESSIBILITY UPGRADES	D2010	2	Plant Adaption	97,528
033AC06	UNISEX RESTROOM INSTALLATION	D2010	2	Plant Adaption	23,985
033AC07	INTERIOR STAIR AND RAILING UPGRADES	C2020	2	Plant Adaption	47,426
033AC08	ADD CANE RAIL	G2030	2	Plant Adaption	86
033AC09	EXTERIOR RAILING UPGRADES	B2030	2	Plant Adaption	48,086
033FS02	ADD ROOF HATCH FALL PROTECTION	B3020	2	Plant Adaption	2,289
033HE02	ASBESTOS ABATEMENT - MECHANICAL SYSTEMS	F2020	2	Plant Adaption	55,648
033AC02	UPGRADE DRINKING FOUNTAINS	C1010	3	Plant Adaption	17,021
033ES01	EXTERIOR MASONRY WALL RENEWAL	B2010	3	Corrective Action	779,969
033ES02	EXTERIOR WALL FINISH RENEWAL	B2010	3	Corrective Action	19,948
033FS01	FIRE SPRINKLER SYSTEM EXTENSION	D4010	3	Plant Adaption	320,762
033HE01	ASBESTOS ABATEMENT - INTERIOR FINISH SYSTEMS	F2020	3	Plant Adaption	3,002
033HV01	INSTALL DUST COLLECTION SYSTEM	D3090	3	Plant Adaption	17,369
033IS01	REPAIR ACOUSTICAL TILE CEILING SYSTEM	C3020	3	Corrective Action	82,651
033SI01	STORMWATER MANAGEMENT UPGRADES	G3030	3	Corrective Action	1,061
033SI02	SITE PAVING RENEWAL	G2040	3	Corrective Action	3,660
				TOTAL	**$1,642,958**

FACILITY CONDITION ASSESSMENT

SECTION 3

NONRECURRING PROJECT DETAILS

All costs shown as Present Value

ADD ROOF HATCH FALL PROTECTION

Project Number:	033FS02	**Category Code:** FS6A	
Priority Sequence:	1		
Priority Class:	Medium	**System:**	FIRE/LIFE SAFETY
Project Class:	Plant Adaption	**Component:**	GENERAL
Date Basis:	2/2/2023	**Element:**	OTHER

Code Application:		Subclass/Savings:	Project Location:
OSHA	29 CFR 1910.21(A)(4),	Not Applicable	Item Only: Floor(s) R
OSHA	29 CFR 1910.23(E)(8)		

Description

The roof hatch is missing fall protection. It is recommended that guardrails be installed around the hatch.

All costs shown as Present Value

Project Cost Estimate

Task Description	Unit	Qnty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Metal pipe guardrail, average	LF	14	$98.97	$1,386	$24.93	$349	$1,735
Base Material/Labor Costs				**$1,386**		**$349**	
Indexed Material/Labor Costs				**$1,395**		**$249**	**$1,644**
Construction Mark Up at 20.0%							**$329**
Original Construction Cost							**$1,973**
Date of Original Estimate: 2/2/2023						**Inflation**	**$0**
Current Year Construction Cost							**$1,973**
Professional Fees at 16.0%							**$316**
TOTAL PROJECT COST							**$2,289**

All costs shown as Present Value

ASBESTOS ABATEMENT - MECHANICAL SYSTEMS

Project Number:	033HE02	**Category Code:** HE6B	
Priority Sequence:	2		
Priority Class:	Medium	**System:**	HEALTH
Project Class:	Plant Adaption	**Component:**	HAZARDOUS MATERIAL
Date Basis:	2/21/2023	**Element:**	MECHANICAL ASBESTOS

Code Application:		Subclass/Savings:	Project Location:
EPA	40 CFR 61.M, 763	Not Applicable	Floor-wide: Floor(s) 1,2
OSHA	29 CFR 1910.1001, 1926.1101		

Description

There is asbestos existent on utility piping. Prior to future renovation of these systems, this asbestos will have to be properly removed from the utility networks.

All costs shown as Present Value

Project Cost Estimate

Task Description	Unit	Qnty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
HVAC system - abate asbestos from utility piping	SF	36,292	$0.20	$7,258	$0.49	$17,783	$25,041
Plumbing system - abate asbestos from supply piping network	SF	36,292	$0.20	$7,258	$0.49	$17,783	$25,041
			Base Material/Labor Costs	**$14,517**		**$35,566**	
			Indexed Material/Labor Costs	**$14,618**		**$25,359**	**$39,977**
					Construction Mark Up at 20.0%		**$7,995**
					Original Construction Cost		**$47,972**
Date of Original Estimate: 2/21/2023					**Inflation**		**$0**
					Current Year Construction Cost		**$47,973**
					Professional Fees at 16.0%		**$7,676**
					TOTAL PROJECT COST		**$55,648**

All costs shown as Present Value

UPGRADE ELEVATOR ACCESSIBILITY

Project Number:	033AC01	**Category Code:** AC3A	
Priority Sequence:	3		
Priority Class:	Medium	**System:**	ACCESSIBILITY
Project Class:	Plant Adaption	**Component:**	INTERIOR PATH OF TRAVEL
Date Basis:	2/2/2023	**Element:**	LIFTS/RAMPS/ELEVATORS

Code Application:		Subclass/Savings:	Project Location:
ADAAG	407	DOJ2 - Access to Goods & Services	Building-wide: Floor(s) 1

Description

The elevator control systems are devoid of accessible features. It is recommended that the elevator controls be upgraded with a package consisting of a hands-free two-way telephone, Braille signage, and audible signals.

All costs shown as Present Value

Project Cost Estimate

Task Description	Unit	Qnty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Elevator accessibility package	EA	1	$7,599	$7,599	$4,918	$4,918	$12,517
			Base Material/Labor Costs	**$7,599**		**$4,918**	
			Indexed Material/Labor Costs	**$7,652**		**$3,506**	**$11,159**
						Construction Mark Up at 20.0%	**$2,232**
						Original Construction Cost	**$13,390**
Date of Original Estimate: 2/2/2023						**Inflation**	**$0**
						Current Year Construction Cost	**$13,390**
						Professional Fees at 16.0%	**$2,142**
						TOTAL PROJECT COST	**$15,533**

All costs shown as Present Value

ADD CANE RAIL

Project Number:	033AC08	**Category Code:** AC1A	
Priority Sequence:	4		
Priority Class:	Medium	**System:**	ACCESSIBILITY
Project Class:	Plant Adaption	**Component:**	SITE
Date Basis:	1/10/2023	**Element:**	STAIR AND RAILINGS

Code Application:		Subclass/Savings:	Project Location:
ADAAG	4.1.2(3), 4.1.3(2)	DOJ2 - Access to Goods & Services	Item Only: Floor(s) 1

Description

The exterior shop stair creates a collision hazard to those with vision impairment. The installation of a cane rail under the stair run is recommended to comply with ADAAG.

All costs shown as Present Value

Project Cost Estimate

Task Description	Unit	Qnty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Install metal cane rail, up to 12 inches in height, suitable for exterior locations	LF	1	$48.62	$49	$18.30	$18	$67
			Base Material/Labor Costs	**$49**		**$18**	
			Indexed Material/Labor Costs	**$49**		**$13**	**$62**
						Construction Mark Up at 20.0%	**$12**
						Original Construction Cost	**$74**
Date of Original Estimate:	1/10/2023					**Inflation**	**$0**
						Current Year Construction Cost	**$74**
						Professional Fees at 16.0%	**$12**
						TOTAL PROJECT COST	**$86**

All costs shown as Present Value

EXTERIOR RAILING UPGRADES

Project Number:	033AC09	**Category Code:** AC2A	
Priority Sequence:	5		
Priority Class:	Medium	**System:**	ACCESSIBILITY
Project Class:	Plant Adaption	**Component:**	BUILDING ENTRY
Date Basis:	1/11/2023	**Element:**	GENERAL

Code Application:		Subclass/Savings:	Project Location:
ADAAG	505	DOJ1 - Approach & Entrance	Building-wide: Floor(s) 1

Description

Multiple stairs on the exterior of the building have deficient or nonexistent guardrails and deficient handrails. Installation of compliant guardrails is recommended for the mechanical room entry, the south shop entry, the east shop entry, the areaway, and the shop connector. Installation of compliant handrails is also recommended for the mechanical room entry, the south shop entry, the east shop entry, the areaway, the building arcade, and the shop connector.

All costs shown as Present Value

Project Cost Estimate

Task Description	Unit	Qnty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Wall-mounted handrail system, painted	LF	130	$75.73	$9,845	$53.08	$6,900	$16,745
Exterior guardrail system, painted	LF	90	$175	$15,750	$60.00	$5,400	$21,150
Base Material/Labor Costs				**$25,595**		**$12,300**	
Indexed Material/Labor Costs				**$25,774**		**$8,770**	**$34,544**
Construction Mark Up at 20.0%							**$6,909**
Original Construction Cost							**$41,453**
Date of Original Estimate: 1/11/2023						**Inflation**	**$0**
Current Year Construction Cost							**$41,453**
Professional Fees at 16.0%							**$6,632**
TOTAL PROJECT COST							**$48,086**

All costs shown as Present Value

RESTROOM ACCESSIBILITY UPGRADES

Project Number:	033AC05	**Category Code:** AC3E	
Priority Sequence:	6		
Priority Class:	Medium	**System:**	ACCESSIBILITY
Project Class:	Plant Adaption	**Component:**	INTERIOR PATH OF TRAVEL
Date Basis:	2/2/2023	**Element:**	RESTROOMS/BATHROOMS

Code Application:		Subclass/Savings:	Project Location:
ADAAG	309, 603, 604, 605, 606, 607, 608	DOJ3 - Restrooms	Room Only: Floor(s) 1

Description

The restrooms on the first floor do not have accessible stalls or power door operators. Additionally, the showers in these restrooms are not accessible. A comprehensive remodel of the restrooms is required to meet ADA accessibility standards.

All costs shown as Present Value

Project Cost Estimate

Task Description	Unit	Qnty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Door operator, signage, and controls	EA	4	$6,021	$24,086	$2,083	$8,331	$32,416
Grab bars (per stall)	SYS	3	$232	$697	$546	$1,639	$2,336
ADA-compliant toilet	EA	3	$1,584	$4,751	$418	$1,255	$6,006
High density polymer toilet partition modification	EA	3	$2,647	$7,940	$1,639	$4,918	$12,858
Roll-in shower	EA	2	$5,379	$10,758	$7,001	$14,002	$24,760
			Base Material/Labor Costs	**$48,231**		**$30,146**	
			Indexed Material/Labor Costs	**$48,569**		**$21,494**	**$70,063**
						Construction Mark Up at 20.0%	**$14,013**
						Original Construction Cost	**$84,076**
Date of Original Estimate:	2/2/2023					**Inflation**	**$0**
						Current Year Construction Cost	**$84,076**
						Professional Fees at 16.0%	**$13,452**
						TOTAL PROJECT COST	**$97,528**

All costs shown as Present Value

UNISEX RESTROOM INSTALLATION

Project Number:	033AC06	**Category Code:** AC3E	
Priority Sequence:	7		
Priority Class:	Medium	**System:**	ACCESSIBILITY
Project Class:	Plant Adaption	**Component:**	INTERIOR PATH OF TRAVEL
Date Basis:	2/2/2023	**Element:**	RESTROOMS/BATHROOMS

Code Application:		Subclass/Savings:	Project Location:
ADAAG	604, 605, 606	DOJ3 - Restrooms	Undefined: Floor(s) 1

Description

The two south restrooms do not have an accessible ADA stall. Since fixtures must be eliminated to accommodate an accessible stall, the creation of a unisex restroom is recommended.

All costs shown as Present Value

Project Cost Estimate

Task Description	Unit	Qnty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Installation of an accessible unisex restroom including toilet, lavatory, piping, and rough-in (60 square feet in area)	EA	1	$8,598	$8,598	$12,023	$12,023	$20,621
Base Material/Labor Costs				**$8,598**		**$12,023**	
Indexed Material/Labor Costs				**$8,658**		**$8,573**	**$17,231**
Construction Mark Up at 20.0%							**$3,446**
Original Construction Cost							**$20,677**
Date of Original Estimate: 2/2/2023						**Inflation**	**$0**
Current Year Construction Cost							**$20,677**
Professional Fees at 16.0%							**$3,308**
TOTAL PROJECT COST							**$23,985**

All costs shown as Present Value

AUDITORIUM ACCESSIBILITY UPGRADES

Project Number:	033AC03	**Category Code:** AC3A	
Priority Sequence:	8		
Priority Class:	Medium	**System:**	ACCESSIBILITY
Project Class:	Plant Adaption	**Component:**	INTERIOR PATH OF TRAVEL
Date Basis:	2/2/2023	**Element:**	LIFTS/RAMPS/ELEVATORS

Code Application:		Subclass/Savings:	Project Location:
ADAAG	219.3, 706.1, 806, 505	DOJ2 - Access to Goods & Services	Undefined: Floor(s) 1

Description

The auditorium has multiple barriers to accessibility. First, there are no table seating spaces designated for wheelchair use. It is recommended that seats in each section be modified to accommodate persons in a wheelchair. Second, install transmitter and headphone receiver sets to accommodate those individuals that require audible assistance. Third, the stage is inaccessible and it is recommended that a wheelchair lift be installed at the stage in order to provide adequate access. Finally, the ramps in the auditorium are devoid of supportive handrails. It is recommended that compliant painted metal handrails be installed.

All costs shown as Present Value

Project Cost Estimate

Task Description	Unit	Qnty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Table and seating modifications	LOT	8	$1,451	$11,612	$910	$7,281	$18,893
Infrared transmitter and headphone receiver sets	SYS	1	$2,493	$2,493	$2,186	$2,186	$4,679
Stage wheelchair lift	SYS	1	$11,953	$11,953	$6,830	$6,830	$18,784
Wall-mounted handrail system, painted	LF	80	$82.83	$6,626	$58.05	$4,644	$11,270
			Base Material/Labor Costs	**$32,685**		**$20,942**	
			Indexed Material/Labor Costs	**$32,914**		**$14,931**	**$47,845**
					Construction Mark Up at 20.0%		**$9,569**
					Original Construction Cost		**$57,414**
Date of Original Estimate:	2/2/2023				**Inflation**		**$0**
					Current Year Construction Cost		**$57,414**
					Professional Fees at 16.0%		**$9,186**
					TOTAL PROJECT COST		**$66,600**

All costs shown as Present Value

INTERIOR DOOR ACCESSIBILITY UPGRADES

Project Number:	033AC04	**Category Code:** AC3C	
Priority Sequence:	9		
Priority Class:	Medium	**System:**	ACCESSIBILITY
Project Class:	Plant Adaption	**Component:**	INTERIOR PATH OF TRAVEL
Date Basis:	2/2/2023	**Element:**	DOORS AND HARDWARE

Code Application:		Subclass/Savings:	Project Location:
ADAAG	309.4	DOJ2 - Access to Goods & Services	Floor-wide: Floor(s) 1,2

Description

The knob actuated door hardware is a barrier to accessibility. Accessibility legislation requires that door hardware be designed for operation by people with little or no ability to grasp objects with their hands. To comply with the intent of this legislation, it is recommended that lever handle hardware be installed on all doors that still have knobs.

All costs shown as Present Value

Project Cost Estimate

Task Description	Unit	Qnty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Lever actuated door hardware	EA	45	$498	$22,417	$200	$8,980	$31,397
Base Material/Labor Costs				**$22,417**		**$8,980**	
Indexed Material/Labor Costs				**$22,574**		**$6,403**	**$28,977**
Construction Mark Up at 20.0%							**$5,795**
Original Construction Cost							**$34,772**
Date of Original Estimate: 2/2/2023						**Inflation**	**$0**
Current Year Construction Cost							**$34,772**
Professional Fees at 16.0%							**$5,564**
TOTAL PROJECT COST							**$40,336**

All costs shown as Present Value

INTERIOR STAIR AND RAILING UPGRADES

Project Number:	033AC07	**Category Code:** AC3B	
Priority Sequence:	10		
Priority Class:	Medium	**System:**	ACCESSIBILITY
Project Class:	Plant Adaption	**Component:**	INTERIOR PATH OF TRAVEL
Date Basis:	2/2/2023	**Element:**	STAIRS AND RAILINGS

Code Application:		Subclass/Savings:	Project Location:
IBC	1003.3	DOJ2 - Access to Goods & Services	Floor-wide: Floor(s) 1,2
ADAAG	505		

Description

Accessibility legislation requires that stairs have graspable handrails on both sides, that the rails have a specific end geometry, and that the handrails continue horizontally at the landings. In addition, guardrails must prevent the passage of a four-inch diameter sphere (six inches in the triangle formed by the lower rail and tread/riser angle). The tread finishes on the fire stairs are old and do not have the proper gripping ability for safety. It is recommended that compliant handrails and guardrails be installed along with an upgraded tread finish.

All costs shown as Present Value

Project Cost Estimate

Task Description	Unit	Qnty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Wall-mounted handrail system per floor	FLR	4	$939	$3,757	$854	$3,415	$7,172
Switchback handrail/guardrail system per floor	FLR	4	$2,128	$8,511	$1,366	$5,464	$13,975
Stair tread and landing finish upgrades per floor	FLR	4	$2,377	$9,508	$1,267	$5,068	$14,576
Railing system up to 42 inches high with pickets at 4 1/2 inches on center	LF	10	$176	$1,759	$59.76	$598	$2,357
			Base Material/Labor Costs	**$23,535**		**$14,545**	
			Indexed Material/Labor Costs	**$23,699**		**$10,371**	**$34,070**
					Construction Mark Up at 20.0%		**$6,814**
					Original Construction Cost		**$40,884**
Date of Original Estimate: 2/2/2023					**Inflation**		**$0**
					Current Year Construction Cost		**$40,884**
					Professional Fees at 16.0%		**$6,541**
					TOTAL PROJECT COST		**$47,426**

All costs shown as Present Value

FIRE SPRINKLER SYSTEM EXTENSION

Project Number:	033FS01	**Category Code:** FS3A	
Priority Sequence:	11		
Priority Class:	Low	**System:**	FIRE/LIFE SAFETY
Project Class:	Plant Adaption	**Component:**	SUPPRESSION
Date Basis:	2/26/2023	**Element:**	SPRINKLERS

Code Application:		Subclass/Savings:	Project Location:
NFPA	1, 13, 13R, 101	Not Applicable	Floor-wide: Floor(s) 1,2

Description

As a part of future renovation efforts, it is recommended that this facility be fully protected by an automatic, wet-pipe sprinkler system.

All costs shown as Present Value

Project Cost Estimate

Task Description	Unit	Qnty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Install a wet-pipe sprinkler system, including valves, piping, sprinkler heads, piping supports, etc.	SF	22,292	$5.50	$122,606	$6.73	$150,025	$272,631
			Base Material/Labor Costs	**$122,606**		**$150,025**	
			Indexed Material/Labor Costs	**$123,464**		**$106,968**	**$230,432**
					Construction Mark Up at 20.0%		**$46,086**
					Original Construction Cost		**$276,519**
Date of Original Estimate:	2/26/2023				**Inflation**		**$0**
					Current Year Construction Cost		**$276,519**
					Professional Fees at 16.0%		**$44,243**
					TOTAL PROJECT COST		**$320,762**

All costs shown as Present Value

ASBESTOS ABATEMENT - INTERIOR FINISH SYSTEMS

Project Number:	033HE01	**Category Code:** HE6F	
Priority Sequence:	12		
Priority Class:	Low	**System:**	HEALTH
Project Class:	Plant Adaption	**Component:**	HAZARDOUS MATERIAL
Date Basis:	2/2/2023	**Element:**	OTHER

Code Application:		Subclass/Savings:	Project Location:
EPA	40 CFR 61.M, 763	Not Applicable	Area Wide: Floor(s) 1
OSHA	29 CFR 1910.1001, 1926.1101		

Description

Asbestos-containing materials (ACMs) are suspected to exist in the costume area floor and ceiling. Prior to replacing these systems, the ACMs should be properly investigated and abated. This project provides a budget for the abatement of ACMs prior to the renewal of the affected finishes.

All costs shown as Present Value

Project Cost Estimate

Task Description	Unit	Qnty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Typical asbestos abatement of floor tile and mastic	SF	590	$0.38	$224	$2.63	$1,552	$1,776
Typical asbestos abatement of attached ceiling finishes	SF	690	$0.11	$76	$1.52	$1,049	$1,125
			Base Material/Labor Costs	**$300**		**$2,601**	
			Indexed Material/Labor Costs	**$302**		**$1,854**	**$2,156**
					Construction Mark Up at 20.0%		**$431**
					Original Construction Cost		**$2,588**
Date of Original Estimate: 2/2/2023					**Inflation**		**$0**
					Current Year Construction Cost		**$2,588**
					Professional Fees at 16.0%		**$414**
					TOTAL PROJECT COST		**$3,002**

All costs shown as Present Value

UPGRADE DRINKING FOUNTAINS

Project Number:	033AC02
Priority Sequence:	13
Priority Class:	Low
Project Class:	Plant Adaption
Date Basis:	2/2/2023

Category Code: AC3F

System:	ACCESSIBILITY
Component:	INTERIOR PATH OF TRAVEL
Element:	DRINKING FOUNTAINS

Code Application:		Subclass/Savings:	Project Location:
ADAAG	211, 602	DOJ4 - Other	Floor-wide: Floor(s) 1,2

Description

The configuration of the existing drinking fountains is a barrier to accessibility. All single-level refrigerated drinking fountains should be replaced with dual-level units.

All costs shown as Present Value

Project Cost Estimate

Task Description	Unit	Qnty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Dual-level drinking fountain	EA	5	$1,995	$9,973	$613	$3,065	$13,038
			Base Material/Labor Costs	**$9,973**		**$3,065**	
			Indexed Material/Labor Costs	**$10,042**		**$2,185**	**$12,228**
						Construction Mark Up at 20.0%	**$2,446**
						Original Construction Cost	**$14,673**
Date of Original Estimate: 2/2/2023						**Inflation**	**$0**
						Current Year Construction Cost	**$14,673**
						Professional Fees at 16.0%	**$2,348**
						TOTAL PROJECT COST	**$17,021**

All costs shown as Present Value

EXTERIOR MASONRY WALL RENEWAL

Project Number:	033ES01	**Category Code:** ES2B	
Priority Sequence:	14		
Priority Class:	Low	**System:**	EXTERIOR
Project Class:	Corrective Action	**Component:**	COLUMNS/BEAMS/WALLS
Date Basis:	2/2/2023	**Element:**	FINISH

Code Application:	Subclass/Savings:	Project Location:
Not Applicable	Not Applicable	Building-wide: Floor(s) 1

Description

The exterior brick has spalled in some areas and will require replacement along with repointing.

All costs shown as Present Value

Project Cost Estimate

Task Description	Unit	Qnty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Repair brick exterior wall, average bond	SF	18,800	$9.51	$178,788	$28.37	$533,356	$712,144
Base Material/Labor Costs				**$178,788**		**$533,356**	
Indexed Material/Labor Costs				**$180,040**		**$380,283**	**$560,322**
Construction Mark Up at 20.0%							**$112,064**
Original Construction Cost							**$672,387**
Date of Original Estimate: 2/2/2023						**Inflation**	**$0**
Current Year Construction Cost							**$672,387**
Professional Fees at 16.0%							**$107,582**
TOTAL PROJECT COST							**$779,969**

All costs shown as Present Value

EXTERIOR WALL FINISH RENEWAL

Project Number:	033ES02	**Category Code:** ES2B	
Priority Sequence:	15		
Priority Class:	Low	**System:**	EXTERIOR
Project Class:	Corrective Action	**Component:**	COLUMNS/BEAMS/WALLS
Date Basis:	2/2/2023	**Element:**	FINISH

Code Application:	Subclass/Savings:	Project Location:
Not Applicable	Not Applicable	Building-wide: Floor(s) 1

Description

The brick surfaces have efflorescence deposits and the stone and concrete have grime. A light chemical treatment and power washing is recommended to restore the buildings appearance.

All costs shown as Present Value

Project Cost Estimate

Task Description	Unit	Qnty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
General exterior wall surface clean and pressure wash with light chemical	SF	8,060	$0.30	$2,418	$2.07	$16,684	$19,102
Base Material/Labor Costs				**$2,418**		**$16,684**	
Indexed Material/Labor Costs				**$2,435**		**$11,896**	**$14,331**
Construction Mark Up at 20.0%							**$2,866**
Original Construction Cost							**$17,197**
Date of Original Estimate: 2/2/2023						**Inflation**	**$0**
Current Year Construction Cost							**$17,197**
Professional Fees at 16.0%							**$2,752**
TOTAL PROJECT COST							**$19,948**

All costs shown as Present Value

INSTALL DUST COLLECTION SYSTEM

Project Number:	033HV01	**Category Code:** HV4C	
Priority Sequence:	16		
Priority Class:	Low	**System:**	HVAC
Project Class:	Plant Adaption	**Component:**	AIR MOVING/VENTILATION
Date Basis:	2/26/2023	**Element:**	OTHER FANS

Code Application:	Subclass/Savings:	Project Location:
Not Applicable	Not Applicable	Building-wide: Floor(s) 1,2

Description

Install a dust collection system for the scene shop.

All costs shown as Present Value

Project Cost Estimate

Task Description	Unit	Qnty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Install dust collection system	SYS	1	$8,056	$8,056	$6,122	$6,122	$14,178
Base Material/Labor Costs				**$8,056**		**$6,122**	
Indexed Material/Labor Costs				**$8,112**		**$4,365**	**$12,477**
Construction Mark Up at 20.0%							**$2,495**
Original Construction Cost							**$14,973**
Date of Original Estimate: 2/26/2023						**Inflation**	**$0**
Current Year Construction Cost							**$14,973**
Professional Fees at 16.0%							**$2,396**
TOTAL PROJECT COST							**$17,369**

All costs shown as Present Value

REPAIR ACOUSTICAL TILE CEILING SYSTEM

Project Number:	033IS01
Priority Sequence:	17
Priority Class:	Low
Project Class:	Corrective Action
Date Basis:	2/2/2023

Category Code: IS1A

System:	INTERIOR/FINISH SYS.
Component:	FLOOR
Element:	FINISHES-DRY

Code Application:	Subclass/Savings:	Project Location:
Not Applicable	Not Applicable	Area Wide: Floor(s) 1

Description

The acoustical tile ceiling system in the shop area is worn. Past water damage has resulted in a timeworn and partially stained finish. It is recommended that select ceiling tiles be replaced and the grid repaired.

All costs shown as Present Value

Project Cost Estimate

Task Description	Unit	Qnty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Repair damaged acoustical tile ceiling system	SF	11,000	$2.96	$32,560	$3.39	$37,290	$69,850
Base Material/Labor Costs				**$32,560**		**$37,290**	
Indexed Material/Labor Costs				**$32,788**		**$26,588**	**$59,376**
Construction Mark Up at 20.0%							**$11,875**
Original Construction Cost							**$71,251**
Date of Original Estimate: 2/2/2023						**Inflation**	**$0**
Current Year Construction Cost							**$71,251**
Professional Fees at 16.0%							**$11,400**
TOTAL PROJECT COST							**$82,651**

All costs shown as Present Value

STORMWATER MANAGEMENT UPGRADES

Project Number:	033SI01
Priority Sequence:	18
Priority Class:	Low
Project Class:	Corrective Action
Date Basis:	2/2/2023

Category Code: SI4A

System:	SITE
Component:	GENERAL
Element:	OTHER

Code Application:	Subclass/Savings:	Project Location:
Not Applicable	Not Applicable	Undefined: Floor(s) 1

Description

The exit walk outside of corridor 110 has had issues with flooding. It is recommended that a new storm drain be installed to mitigate flooding.

All costs shown as Present Value

Project Cost Estimate

Task Description	Unit	Qnty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Storm drain, average internal diameter with shallow burial depth	LF	8	$50.19	$402	$62.72	$502	$903
			Base Material/Labor Costs	**$402**		**$502**	
			Indexed Material/Labor Costs	**$404**		**$358**	**$762**
						Construction Mark Up at 20.0%	**$152**
						Original Construction Cost	**$914**
Date of Original Estimate:	2/2/2023					**Inflation**	**$0**
						Current Year Construction Cost	**$915**
						Professional Fees at 16.0%	**$146**
						TOTAL PROJECT COST	**$1,061**

All costs shown as Present Value

SITE PAVING RENEWAL

Project Number:	033SI02
Priority Sequence:	19
Priority Class:	Low
Project Class:	Corrective Action
Date Basis:	2/2/2023

Category Code: SI1A

System:	SITE
Component:	ACCESS
Element:	PEDESTRIAN

Code Application:	Subclass/Savings:	Project Location:
Not Applicable	Not Applicable	Undefined: Floor(s) 1

Description

Concrete pedestrian walks and drives contain some cracking. It is recommended that the cracks be sealed to prevent further ice jacking. The asphalt service drive also shows signs of cracking. Crack sealing is recommended to prevent further degradation of the asphalt.

All costs shown as Present Value

Project Cost Estimate

Task Description	Unit	Qnty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Repair cracks and seal paved concrete surfaces	LF	40	$10.77	$431	$25.19	$1,008	$1,438
Direct applied crack sealant for asphalt paving	SY	524	$1.61	$844	$1.68	$880	$1,724
			Base Material/Labor Costs	**$1,274**		**$1,888**	
			Indexed Material/Labor Costs	**$1,283**		**$1,346**	**$2,629**
					Construction Mark Up at 20.0%		**$526**
					Original Construction Cost		**$3,155**
Date of Original Estimate: 2/2/2023					**Inflation**		**$0**
					Current Year Construction Cost		**$3,155**
					Professional Fees at 16.0%		**$505**
					TOTAL PROJECT COST		**$3,660**

FACILITY CONDITION ASSESSMENT

SECTION 4

LIFECYCLE COMPONENT INVENTORY

RENEWABLE COMPONENT INVENTORY

COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	QTY	UNITS	CPLX FACTR	TOTAL COST	INSTL DATE	USEFUL LIFE	USEFUL LIFE ADJ	REPL YEAR
EW12	WALL, EXTERIOR, PANEL JOINT RESTORATION	CONCRETE PANELS		ALL ELEVS	8,060	SF	1.12	$209,404	1982	25	41	2048
WN01	GLASS, WINDOW, ALUMINUM OR WOOD, STANDARD	STEEL STATIONARY		STAIR TOWERS	8,840	SF	1.12	$1,824,449	1951	40	11	DR
DR08	DOOR AND FRAME, EXTERIOR, SWINGING, HOLLOW METAL	HOLLOW METAL		EAST, WEST, AND SOUTH ELEVATIONS	11	LEAF	1.00	$26,893	2019	40		2059
DR08	DOOR AND FRAME, EXTERIOR, SWINGING, HOLLOW METAL	HM PANIC		EAST, WEST, AND SOUTH ELEVATIONS	12	LEAF	1.00	$29,338	2019	40		2059
DR08	DOOR AND FRAME, EXTERIOR, SWINGING, HOLLOW METAL	FULL HEIGHT HM		SHOP CONNECTOR	8	LEAF	1.50	$29,338	1987	40		2027
DR08	DOOR AND FRAME, EXTERIOR, SWINGING, HOLLOW METAL	POWER ASSIST HM		WEST ELEVATION	1	LEAF	1.00	$2,445	2019	40		2059
DR10	DOOR AND FRAME, EXTERIOR, SWINGING, WOOD PANEL	WOOD WITH GLASS		110	2	LEAF	1.00	$5,452	1987	25	10	DR
DR12	DOOR AND STOREFRONT, EXTERIOR, SWINGING, ALUMINUM AND GLASS	POWDER COATED ALUM		NORTH ELEVATION	4	LEAF	1.00	$18,057	2019	25		2044
DR19	DOOR, EXTERIOR, OVERHEAD ROLLING METAL, LOCK	COILING STEEL		EAST ELEVATION	160	SF	1.00	$18,903	2019	30		2049
DR28	DOOR OPERATOR, POWER-ASSIST	POWER ASSIST HM		WEST ELEVATION	1	EA	1.00	$10,508	2019	20		2039
DR30	DOOR OPERATOR, OVERHEAD DOOR, COMMERCIAL, PADS	COILING STEEL		EAST ELEVATION	1	EA	1.00	$2,558	2006	15		DR
RR03	ROOF - 1-PLY, ADHERED (EPDM, PIB, CSPE, PVC)	EPDM		ROOF	6,576	SF	1.18	$62,994	1995	20	7	DR
RR07	ROOF - BITUMINOUS, 2-PLY, APPLIED MODIFIED BITUMEN, TORCH	MOD BIT		ROOF	10,960	SF	1.80	$120,204	2013	20	-1	2032
RR18	ROOF - TILE, CLAY, FLAT	TERRA COTTA		ROOF	2,391	SF	1.25	$156,064	2013	70		2083

RENEWABLE COMPONENT INVENTORY

COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	QTY	UNITS	CPLX FACTR	TOTAL COST	INSTL DATE	USEFUL LIFE	USEFUL LIFE ADJ	REPL YEAR
RR20	ROOF GUTTER AND LEADER - ALUMINUM OR GALVANIZED, COATED	POWDER COATED ALUM		ROOF	200	LF	1.00	$4,091	2013	20		2033
RR29	ROOF HATCH - ACCESS			ROOF	3	EA	1.00	$17,118	2013	30		2043
RR29	ROOF HATCH - ACCESS			ROOF	1	EA	1.00	$5,706	1995	30		2025
RR30	ROOF HATCH - SMOKE			ROOF	384	SF	1.00	$234,482	2013	30		2043
IW14	TOILET PARTITION WITH ACCESSORIES	STEEL PARTITIONS		108, 105, 128, 129, 2-E-4	14	SYS	1.00	$43,900	1987	20	15	DR
DR01	DOOR AND FRAME, INTERIOR, NON-RATED	OLD WOOD		MOST AREAS	14	LEAF	1.00	$36,482	1951	40	31	DR
DR02	DOOR AND FRAME, INTERIOR, FIRE-RATED	NEW WOOD PANIC		201	2	LEAF	1.00	$9,002	2019	40		2059
DR02	DOOR AND FRAME, INTERIOR, FIRE-RATED	HOLLOW METAL		STAIR TOWERS, CORRIDORS	6	LEAF	1.00	$27,005	2019	40		2059
DR02	DOOR AND FRAME, INTERIOR, FIRE-RATED	OLD WOOD		MOST AREAS	28	LEAF	1.00	$126,022	1987	40		2027
DR02	DOOR AND FRAME, INTERIOR, FIRE-RATED	OLD HM		209	1	LEAF	1.00	$4,501	1987	40		2027
DR24	DOOR LOCK, COMMERCIAL-GRADE	HOLLOW METAL		EAST, WEST, AND SOUTH ELEVATIONS	11	EA	1.00	$9,861	2019	20		2039
DR24	DOOR LOCK, COMMERCIAL-GRADE	FULL HEIGHT HM		SHOP CONNECTOR	8	EA	1.00	$7,171	1987	20	15	DR
DR26	DOOR PANIC HARDWARE	NEW WOOD PANIC		201	2	EA	1.00	$2,933	2019	20		2039
DR26	DOOR PANIC HARDWARE	HOLLOW METAL		STAIR TOWERS, CORRIDORS	6	EA	1.00	$8,800	2019	20		2039

RENEWABLE COMPONENT INVENTORY

COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	QTY	UNITS	CPLX FACTR	TOTAL COST	INSTL DATE	USEFUL LIFE	USEFUL LIFE ADJ	REPL YEAR
DR26	DOOR PANIC HARDWARE	HM PANIC		EAST, WEST, AND SOUTH ELEVATIONS	12	EA	1.00	$17,599	2019	20		2039
DR26	DOOR PANIC HARDWARE	WOOD WITH GLASS		110	2	EA	1.00	$2,933	1987	20	15	DR
DR26	DOOR PANIC HARDWARE	POWER ASSIST HM		WEST ELEVATION	1	EA	1.00	$1,467	2019	20		2039
DR26	DOOR PANIC HARDWARE	POWDER COATED ALUM		NORTH ELEVATION	4	EA	1.00	$5,866	2019	20		2039
CW01	CASEWORK - WOOD BASE AND WALL, TOP, STANDARD	LOBBY CASEWORK		202	15	LF	1.00	$9,738	1987	20	15	DR
IW01	WALL FINISH - PAINT, STANDARD	STD PAINT		MOST AREAS	23,050	SF	1.00	$62,100	2019	12		2031
IW03	WALL FINISH - TILE, CERAMIC / STONE, STANDARD	4 INCH		RESTROOMS	710	SF	1.00	$32,801	2019	30		2049
IF02	FLOORING - CARPET, TILE OR ROLL, PREMIUM (WOOL, CUSTOM)	PADDED CARPET		201, 204	1,820	SF	1.00	$79,710	2019	15		2034
IF03	FLOORING - VINYL COMPOSITION TILE, STANDARD	12X12 TILE		125, 127, 122, 110	11,210	SF	1.00	$86,485	1987	20	15	DR
IF03	FLOORING - VINYL COMPOSITION TILE, STANDARD	9X9 ACM		112, 119	590	SF	1.00	$4,552	1951	20	51	DR
IF08	FLOORING - TILE, CERAMIC / STONE / QUARRY ECONOMY	1X ECON TILE		RESTROOMS	910	SF	1.00	$23,276	1987	20	15	DR
IF15	FLOORING - FLUID APPLIED, PAINT OR CLEAR SEAL			209	1,820	SF	1.00	$6,733	2019	10		2029
IF25	FLOORING - HARDWOOD, PARQUET			209	1,820	SF	1.00	$126,216	2019	50		2069
IC01	CEILING FINISH - SUSPENDED ACOUSTICAL TILE, STANDARD	12X12 ACT		MOST AREAS	24,130	SF	1.00	$293,149	2007	30		2037
IC03	CEILING FINISH - ATTACHED ACOUSTICAL TILE	9X9 ACM			690	SF	1.00	$5,769	1951	30	41	DR

RENEWABLE COMPONENT INVENTORY

COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	QTY	UNITS	CPLX FACTR	TOTAL COST	INSTL DATE	USEFUL LIFE	USEFUL LIFE ADJ	REPL YEAR
IC04	CEILING FINISH - PAINTED OR STAINED, STANDARD	STD PAINT		115, 209, STAIR TOWERS	9,650	SF	1.00	$25,999	1951	24	47	DR
VT03	ELEVATOR MODERNIZATION - HYDRAULIC	PASSENGER	11208	103	1	EA	1.00	$363,640	1982	25	16	2023
VT03	ELEVATOR MODERNIZATION - HYDRAULIC	FREIGHT	11207	128	1	EA	1.00	$363,640	1951	25	47	2023
VT04	ELEVATOR CAB RENOVATION - PASSENGER	PASSENGER	11208	PASSENGER ELEVATOR	1	EA	1.00	$64,123	1982	12	29	2023
VT04	ELEVATOR CAB RENOVATION - PASSENGER	FREIGHT	11207	SCENE SHOP	1	EA	1.00	$64,123	1951	12	60	2023
FX02	PLUMBING FIXTURE - LAVATORY, WALL HUNG	WHITE PORCELAIN		RESTROOMS	26	EA	1.00	$41,636	2020	35		2055
FX08	PLUMBING FIXTURE - SHOWER VALVE AND HEAD	NON ADA KNOB		129, 128	2	EA	1.00	$4,152	1987	35		DR
FX10	PLUMBING FIXTURE - URINAL	PORCELAIN LOW FLOW		129, 105	5	EA	1.00	$12,748	2020	35		2055
FX11	PLUMBING FIXTURE - WATER CLOSET, TANK-TYPE	PORCELAIN TANK		211, 212	2	EA	1.00	$2,809	2020	35		2055
FX12	PLUMBING FIXTURE - WATER CLOSET, TANKLESS	PORCELAIN TANKLESS		108, 105, 128, 129, 2-E-4	14	EA	1.00	$32,840	2020	35		2055
FX15	PLUMBING FIXTURE - EMERGENCY EYEWASH	EYEWASH / DRENCH HOSE		204	1	EA	1.00	$5,641	2010	35		2045
FX15	PLUMBING FIXTURE - EMERGENCY EYEWASH	EYEWASH / DRENCH HOSE		101	1	EA	1.00	$5,641	2010	35		2045
BF01	BACKFLOW PREVENTER (<=1 INCH)	WATTS, 3/4 INCH, BYPASS		135	1	EA	1.00	$1,263	2008	10	5	2023
BF02	BACKFLOW PREVENTER (1-2 INCHES)	AHU-001 BF		126	1	EA	1.00	$2,816	2016	10		2026
BF03	BACKFLOW PREVENTER (2-3 INCHES)	AMES, 2 1/2 INCH, DW		135	1	EA	1.00	$9,285	2008	10	5	2023

RENEWABLE COMPONENT INVENTORY

COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	QTY	UNITS	CPLX FACTR	TOTAL COST	INSTL DATE	USEFUL LIFE	USEFUL LIFE ADJ	REPL YEAR
BF03	BACKFLOW PREVENTER (2-3 INCHES)	AMES, 2 1/2 INCH, DW		135	1	EA	1.00	$9,285	2008	10	5	2023
BF05	BACKFLOW PREVENTER (4-6 INCHES)	AMES, 6 INCH, FIRE		135	1	EA	1.00	$15,366	2008	10	5	2023
PS22	SUPPLY PIPING SYSTEM - THEATER	SUPPLY PIPE		BUILDING WIDE	36,292	SF	0.93	$273,111	1982	35	6	2023
WH12	WATER HEATER - COMMERCIAL, ELECTRIC (30-70 GAL)	DOMESTIC WATER HEATER		127	50	GAL	1.00	$14,637	2015	20		2035
WH13	WATER HEATER - COMMERCIAL, ELECTRIC (70-90 GAL)	AO SMITH		111	80	GAL	1.00	$16,379	2011	20		2031
PD22	DRAIN PIPING SYSTEM - THEATER	WASTE PIPE		BUILDING WIDE	36,292	SF	0.93	$412,258	1982	40	1	2023
PG15	AIR COMPRESSOR - UTILITY (< =5 HP)	SPEEDAIRE	11196	127	1.50	HP	1.00	$4,196	2016	25		2041
PG15	AIR COMPRESSOR - UTILITY (< =5 HP)	EMQLO		126	1	HP	1.00	$2,797	2000	25	8	2033
HU53	UNIT HEATER, STEAM/HYDRONIC STD (TO 250 MBH)	TRANE UH		126	1	EA	1.00	$1,346	1982	35	6	2023
HU53	UNIT HEATER, STEAM/HYDRONIC STD (TO 250 MBH)	TRANE UH		126	1	EA	1.00	$1,346	1982	35	6	2023
TK03	EXPANSION TANK (21-40 GAL)	HW AIR SEPARATOR		126	30	GAL	1.25	$9,085	2018	25		2043
TK03	EXPANSION TANK (21-40 GAL)	HW EXP TANK		126	30	GAL	1.00	$7,268	2018	25		2043
AH02	AIR HANDLING UNIT - INDOOR (1.25-1.75 HP)	FCU F-3		DIMMER ROOM (214)	1.50	HP	1.00	$13,314	1990	25	8	2023
AH02	AIR HANDLING UNIT - INDOOR (1.25-1.75 HP)	033-AHU-016	11195	127	1.50	HP	1.00	$13,314	1982	25	16	2023
AH04	AIR HANDLING UNIT - INDOOR (2.75-3.25 HP)	033-AHU-015	11194	127	3	HP	1.00	$29,647	1982	25	16	2023

RENEWABLE COMPONENT INVENTORY

COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	QTY	UNITS	CPLX FACTR	TOTAL COST	INSTL DATE	USEFUL LIFE	USEFUL LIFE ADJ	REPL YEAR
AH07	AIR HANDLING UNIT - INDOOR (9-12 HP)	033-AHU-001		126	10	HP	1.00	$98,239	1982	25	21	2028
AH09	AIR HANDLING UNIT - INDOOR (17-23 HP)	033-AHU-002		126	20	HP	1.00	$156,817	1982	25	21	2028
FN02	FAN - AXIAL, RETURN, 1.5" SP (3-5 HP) 13,200 CFM	RF		126	3	HP	1.00	$8,772	1982	20	28	2030
FN18	FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (10"-18" DIAMETER)	STEAM KETTLE HOOD FAN		113	1	EA	1.00	$4,357	2013	20		2033
FN19	FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (20"-22" DIAMETER)	DAYTON		ROOF	1	EA	1.00	$7,711	1982	20	21	2023
FN21	FAN - INLINE CENTRIFUGAL AIRFOIL, SUPPLY, 2.5" SP (<=30 HP)	MECHANICAL ROOM EF		126	2	HP	1.00	$3,376	2018	20		2038
FN25	FAN - PROPELLER WITH LOUVER, 1/4" SP (<=0.5 HP)	NUTONE		111	0.25	HP	0.35	$789	1982	20	21	2023
FN26	FAN - PROPELLER WITH LOUVER, 1/4" SP (.5-1 HP)	EF		128	1	HP	1.00	$3,337	1982	20	21	2023
FN34	FAN - UTILITY SET, 1/4" SP (4-12 HP)	RETURN AIR FAN #5		126	7.50	HP	1.00	$20,565	1982	20	26	2028
HD01	HOOD, FUME	STEAM KETTLE HOOD		113	1	LF	1.00	$2,855	2013	20		2033
HV22	HVAC DISTRIBUTION NETWORKS - THEATER	METAL DUCT		BUILDING WIDE	36,292	SF	0.93	$1,767,143	1982	40	1	2023
HX05	HEAT EXCHANGER - SHELL & TUBE STEAM TO WATER (>85 GPM)	SHELL AND TUBE HEX		126	100	GPM	1.00	$17,701	1982	35	6	2023
PH01	PUMP - ELECTRIC (<=10 HP)	HW PUMP		126	3	HP	1.00	$5,942	1982	25	16	2023
PH02	PUMP - ELECTRIC (10 - 15 HP)	CHWP-1	11212	126	10	HP	1.00	$17,245	2018	25		2043
AC01	AIR COMPRESSOR SYSTEM - HVAC CONTROLS (<=6 TOTAL HP)	GARDENER DENVER		126	5	HP	1.00	$10,799	2020	20		2040

RENEWABLE COMPONENT INVENTORY

COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	QTY	UNITS	CPLX FACTR	TOTAL COST	INSTL DATE	USEFUL LIFE	USEFUL LIFE ADJ	REPL YEAR
AC02	AIR COMPRESSOR SYSTEM - HVAC CONTROLS (6-10 TOTAL HP)	INGERSOLL RAND	11199	127	10	HP	1.00	$24,095	2016	20		2036
AD01	AIR DRYER - REFRIGERATED - 0-10 CFM	INGERSOLL RAND		127	1	EA	1.00	$1,961	2016	15	3	2034
AD01	AIR DRYER - REFRIGERATED - 0-10 CFM	HANKISON		127	1	EA	1.00	$1,961	2016	15	3	2034
AD01	AIR DRYER - REFRIGERATED - 0-10 CFM	SPEEDAIRE		127	1	EA	1.00	$1,961	2018	15		2033
AD01	AIR DRYER - REFRIGERATED - 0-10 CFM	SPEEDAIRE		126	1	EA	1.00	$1,961	2016	15	3	2034
AD01	AIR DRYER - REFRIGERATED - 0-10 CFM	INGERSOLL RAND		126	1	EA	1.00	$1,961	2020	15		2035
BA02	HVAC CONTROLS - TERMINAL ASSEMBLIES - CLASSROOM	CLASSROOM ASSEMBLIES		BUILDING WIDE	24,292	SF	1.00	$90,541	2020	20		2040
BA22	HVAC CONTROLS - TERMINAL ASSEMBLIES - THEATER	THEATER ASSEMBLIES		AUDITORIUM AND STAGE	12,000	SF	1.00	$62,420	2020	20		2040
BA25	HVAC CONTROLS - FIELD PANELS/OPS SOFTWARE - CLASSROOM	CONTROL PANELS AND SOFTWARE		BUILDING WIDE	36,292	SF	1.00	$37,849	2020	10		2030
BA48	HVAC CONTROLS - MAJOR INSTRUMENTATION - CLASSROOM	CLASSROOM MAJOR INST.		BUILDING WIDE	24,292	SF	1.00	$12,913	2020	10		2030
BA68	HVAC CONTROLS - MAJOR INSTRUMENTATION - THEATER	THEATER MAJOR INST.		AUDITORIUM AND STAGE	8,000	SF	1.00	$5,775	2020	10		2030
BA68	HVAC CONTROLS - MAJOR INSTRUMENTATION - THEATER	SCENE SHOP MAJOR INST.		ROOM 127	4,000	SF	1.00	$2,887	1982	10	31	2023
FS01	FIRE SPRINKLER SYSTEM	WET PIPE SUPPRESSION		AUDITORIUM AND 1ST FLOOR	14,000	SF	0.98	$207,352	1982	80		2062
FA01	FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER	SCENE SHOP FACP		101	1	EA	0.05	$2,278	2006	15	7	2028
FA01	FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER	BUILDING FACP		111	1	EA	0.40	$18,227	2013	15		2028

RENEWABLE COMPONENT INVENTORY

COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	QTY	UNITS	CPLX FACTR	TOTAL COST	INSTL DATE	USEFUL LIFE	USEFUL LIFE ADJ	REPL YEAR
FA02	FIRE ALARM SYSTEM - DEVICES	DETECTORS, NOTIFIERS		BUILDING WIDE	36,292	SF	0.93	$165,751	2006	18	4	2028
MC03	MOTOR CONTROL CENTER VERTICAL SECTION, 600V (600-800A) W/STARTERS	GE MCC		126	1	EA	1.35	$151,159	1990	25	8	2023
SE22	ELECTRICAL DISTRIBUTION NETWORK - THEATER			BLDG WIDE	36,292	SF	0.93	$1,017,705	1982	40	1	2023
SG02	MAIN SWITCHBOARD W/BREAKERS (400-600 AMP)	WESTINGHOUSE		112A	400	AMP	1.00	$37,390	1952	20	51	2023
SG02	MAIN SWITCHBOARD W/BREAKERS (400-600 AMP)	TRUMBULL ELEC		112A	600	AMP	1.00	$56,085	1952	20	51	2023
SG02	MAIN SWITCHBOARD W/BREAKERS (400-600 AMP)	MDP1A		111	400	AMP	1.00	$37,390	1993	20	10	2023
SG02	MAIN SWITCHBOARD W/BREAKERS (400-600 AMP)	2MDPE		101	500	AMP	1.00	$46,737	1982	20	21	2023
SG03	MAIN SWITCHBOARD W/BREAKERS (600-800 AMP)	PANEL EM-1		111	800	AMP	1.00	$69,152	1982	20	21	2023
SG04	MAIN SWITCHBOARD W/BREAKERS (800-1200 AMP)	DIMMER PANEL		DIMMER ROOM (214)	800	AMP	1.00	$71,019	1990	20	17	2027
SG06	MAIN SWITCHBOARD W/BREAKERS (1600-2500 AMP)	MAIN SW. BOARD		111	2,000	AMP	1.00	$199,931	1982	20	25	2027
SG11	MC SWGR BREAKER - FME Adjustable (600-800 AMP)	MAIN BREAKER		111	2,000	AMP	1.00	$63,444	1982	25	20	2027
VF01	VARIABLE FREQUENCY DRIVE (<=5 HP)	AHU SF VFD		127	1.50	HP	1.00	$1,265	2011	12		2023
VF03	VARIABLE FREQUENCY DRIVE (7.5-10 HP)	AHU-002 RF VFD		126	7.50	HP	1.00	$4,783	2007	12	4	2023
VF05	VARIABLE FREQUENCY DRIVE (15-20 HP)	AHU-002 SF VFD		126	50	HP	1.00	$22,575	2005	12	6	2023
LE03	LIGHTING - EXTERIOR, RECESSED (INC, CFL, LED)	RECESSED		MAIN ENTRY AND COVERED WALK	5	EA	1.00	$1,412	1982	15	26	2023

RENEWABLE COMPONENT INVENTORY

COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	QTY	UNITS	CPLX FACTR	TOTAL COST	INSTL DATE	USEFUL LIFE	USEFUL LIFE ADJ	REPL YEAR
LE03	LIGHTING - EXTERIOR, RECESSED (INC, CFL, LED)	RECESSED FOOT		EXTERIOR	2	EA	1.00	$565	1982	15	26	2023
LE07	LIGHTING - EXTERIOR, WALL FLOOD (SV, MH, ID, LED)	SURFACE, SINGLE BULB		EXTERIOR	2	EA	1.00	$2,380	1982	15	26	2023
LE07	LIGHTING - EXTERIOR, WALL FLOOD (SV, MH, ID, LED)	SURFACE, LED		EXTERIOR	4	EA	1.00	$4,760	2013	15		2028
LE07	LIGHTING - EXTERIOR, WALL FLOOD (SV, MH, ID, LED)	SURFACE, HID		EXTERIOR	1	EA	1.00	$1,190	1982	15	26	2023
LE07	LIGHTING - EXTERIOR, WALL FLOOD (SV, MH, ID, LED)	SPOT LIGHT, UPWARD		SITE	5	EA	1.00	$5,950	2013	15		2028
LI02	LIGHTING SYSTEM, INTERIOR - CLASSROOM	LED		115	150	SF	1.18	$2,160	2021	20		2041
LI02	LIGHTING SYSTEM, INTERIOR - CLASSROOM	SURFACE, PENDANT, LED RETRO		BUILDING WIDE	24,142	SF	0.95	$279,834	2000	20	5	2025
LI22	LIGHTING SYSTEM, INTERIOR - THEATER			AUDITORIUM AND STAGE	12,000	SF	1.00	$154,890	2000	20	11	2031
GN03	GENERATOR - DIESEL (100-200 KW)	GENERATOR	11249	EXTERIOR	180	KW	1.00	$139,385	2008	25		2033
GN11	SWITCH - AUTO TRANSFER, 208 OR 240 V (>100 AMP)	MCGI-TSW-ATS1	11218	111	800	AMP	1.00	$27,159	2008	25	1	2034
LP01	LIGHTNING PROTECTION			ROOF	3,733	SF	1.00	$6,777	2013	50		2063
SF02	SEATING, FIXED, FOLDING, PREMIUM			205	588	EA	1.00	$597,626	2019	60		2079
SI06	ASPHALT VEHICULAR PAVING - SEALCOAT AND STRIPE	ASPHALT		SERVICE ROAD	524	SY	1.00	$2,279	2019	7		2026
SI01	CONCRETE PEDESTRIAN PAVING - JOINT MAINTENANCE	CONCRETE WALKS		ALL ELEVATIONS	20	LF	1.00	$120	1987	7	28	DR
SI04	SLATE PAVERS	PAVERS		NORTH ELEVATION	2,000	SF	1.00	$80,122	2019	40		2059

RENEWABLE COMPONENT INVENTORY

COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	QTY	UNITS	CPLX FACTR	TOTAL COST	INSTL DATE	USEFUL LIFE	USEFUL LIFE ADJ	REPL YEAR
							Grand Total:	$11,486,565				

RECURRING NEEDS BY YEAR

All costs shown as Future Value using a 3% average inflation rate

DEFERRED RENEWAL									
COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	UNI-FORMAT	QTY	UNITS	REPLACEMENT COST	YEAR
WN01	GLASS, WINDOW, ALUMINUM OR WOOD, STANDARD	STEEL STATIONARY		STAIR TOWERS	B2010	8,840	SF	$1,824,449	DR
DR30	DOOR OPERATOR, OVERHEAD DOOR, COMMERCIAL, PADS	COILING STEEL		EAST ELEVATION	B2030	1	EA	$2,558	DR
DR10	DOOR AND FRAME, EXTERIOR, SWINGING, WOOD PANEL	WOOD WITH GLASS		110	B2030	2	LEAF	$5,452	DR
RR03	ROOF - 1-PLY, ADHERED (EPDM, PIB, CSPE, PVC)	EPDM		ROOF	B3010	6,576	SF	$62,994	DR
IW14	TOILET PARTITION WITH ACCESSORIES	STEEL PARTITIONS		108, 105, 128, 129, 2-E-4	C1010	14	SYS	$43,900	DR
DR01	DOOR AND FRAME, INTERIOR, NON-RATED	OLD WOOD		MOST AREAS	C1020	14	LEAF	$36,482	DR
DR24	DOOR LOCK, COMMERCIAL-GRADE	FULL HEIGHT HM		SHOP CONNECTOR	C1020	8	EA	$7,171	DR
DR26	DOOR PANIC HARDWARE	WOOD WITH GLASS		110	C1020	2	EA	$2,933	DR
CW01	CASEWORK - WOOD BASE AND WALL, TOP, STANDARD	LOBBY CASEWORK		202	C1030	15	LF	$9,738	DR
IF03	FLOORING - VINYL COMPOSITION TILE, STANDARD	12X12 TILE		125, 127, 122, 110	C3020	11,210	SF	$86,485	DR
IF03	FLOORING - VINYL COMPOSITION TILE, STANDARD	9X9 ACM		112, 119	C3020	590	SF	$4,552	DR
IF08	FLOORING - TILE, CERAMIC / STONE / QUARRY ECONOMY	1X ECON TILE		RESTROOMS	C3020	910	SF	$23,276	DR

RECURRING NEEDS BY YEAR

All costs shown as Future Value using a 3% average inflation rate

IC04	CEILING FINISH - PAINTED OR STAINED, STANDARD	STD PAINT		115, 209, STAIR TOWERS	C3030	9,650	SF	$25,999	DR
IC03	CEILING FINISH - ATTACHED ACOUSTICAL TILE	9X9 ACM			C3030	690	SF	$5,769	DR
FX08	PLUMBING FIXTURE - SHOWER VALVE AND HEAD	NON ADA KNOB		129, 128	D2010	2	EA	$4,152	DR
SI01	CONCRETE PEDESTRIAN PAVING - JOINT MAINTENANCE	CONCRETE WALKS		ALL ELEVATIONS	G2030	20	LF	$120	DR
						TOTAL DEFERRED RENEWAL COST		**$2,146,030**	

2023									
COMP CODE	**COMPONENT DESCRIPTION**	**IDENTIFIER**	**CUSTOMER ID**	**LOCATION**	**UNI-FORMAT**	**QTY**	**UNITS**	**REPLACEMENT COST**	**YEAR**
VT03	ELEVATOR MODERNIZATION - HYDRAULIC	PASSENGER	11208	103	D1010	1	EA	$363,640	2023
VT04	ELEVATOR CAB RENOVATION - PASSENGER	PASSENGER	11208	PASSENGER ELEVATOR	D1010	1	EA	$64,123	2023
VT03	ELEVATOR MODERNIZATION - HYDRAULIC	FREIGHT	11207	128	D1010	1	EA	$363,640	2023
VT04	ELEVATOR CAB RENOVATION - PASSENGER	FREIGHT	11207	SCENE SHOP	D1010	1	EA	$64,123	2023

RECURRING NEEDS BY YEAR

All costs shown as Future Value using a 3% average inflation rate

PS22	SUPPLY PIPING SYSTEM - THEATER	SUPPLY PIPE		BUILDING WIDE	D2020	36,292	SF	$273,111	2023
BF05	BACKFLOW PREVENTER (4-6 INCHES)	AMES, 6 INCH, FIRE		135	D2020	1	EA	$15,366	2023
BF01	BACKFLOW PREVENTER (<=1 INCH)	WATTS, 3/4 INCH, BYPASS		135	D2020	1	EA	$1,263	2023
BF03	BACKFLOW PREVENTER (2-3 INCHES)	AMES, 2 1/2 INCH, DW		135	D2020	1	EA	$9,285	2023
BF03	BACKFLOW PREVENTER (2-3 INCHES)	AMES, 2 1/2 INCH, DW		135	D2020	1	EA	$9,285	2023
PD22	DRAIN PIPING SYSTEM - THEATER	WASTE PIPE		BUILDING WIDE	D2030	36,292	SF	$412,258	2023
HU53	UNIT HEATER, STEAM/HYDRONIC STD (TO 250 MBH)	TRANE UH		126	D3020	1	EA	$1,346	2023
HU53	UNIT HEATER, STEAM/HYDRONIC STD (TO 250 MBH)	TRANE UH		126	D3020	1	EA	$1,346	2023
HV22	HVAC DISTRIBUTION NETWORKS - THEATER	METAL DUCT		BUILDING WIDE	D3040	36,292	SF	$1,767,143	2023
PH01	PUMP - ELECTRIC (<=10 HP)	HW PUMP		126	D3040	3	HP	$5,942	2023
HX05	HEAT EXCHANGER - SHELL & TUBE STEAM TO WATER (>85 GPM)	SHELL AND TUBE HEX		126	D3040	100	GPM	$17,701	2023
FN25	FAN - PROPELLER WITH LOUVER, 1/4" SP (<=0.5 HP)	NUTONE		111	D3040	0.25	HP	$789	2023
AH04	AIR HANDLING UNIT - INDOOR (2.75-3.25 HP)	033-AHU-015	11194	127	D3040	3	HP	$29,647	2023
FN26	FAN - PROPELLER WITH LOUVER, 1/4" SP (.5-1 HP)	EF		128	D3040	1	HP	$3,337	2023

RECURRING NEEDS BY YEAR

All costs shown as Future Value using a 3% average inflation rate

AH02	AIR HANDLING UNIT - INDOOR (1.25-1.75 HP)	033-AHU-016	11195	127	D3040	1.50	HP	$13,314	2023
FN19	FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (20"-22" DIAMETER)	DAYTON		ROOF	D3040	1	EA	$7,711	2023
AH02	AIR HANDLING UNIT - INDOOR (1.25-1.75 HP)	FCU F-3		DIMMER ROOM (214)	D3040	1.50	HP	$13,314	2023
BA68	HVAC CONTROLS - MAJOR INSTRUMENTATION - THEATER	SCENE SHOP MAJOR INST.		ROOM 127	D3060	4,000	SF	$2,887	2023
SG02	MAIN SWITCHBOARD W/BREAKERS (400-600 AMP)	2MDPE		101	D5010	500	AMP	$46,737	2023
SE22	ELECTRICAL DISTRIBUTION NETWORK - THEATER			BLDG WIDE	D5010	36,292	SF	$1,017,705	2023
SG03	MAIN SWITCHBOARD W/BREAKERS (600-800 AMP)	PANEL EM-1		111	D5010	800	AMP	$69,152	2023
VF03	VARIABLE FREQUENCY DRIVE (7.5-10 HP)	AHU-002 RF VFD		126	D5010	7.50	HP	$4,783	2023
VF05	VARIABLE FREQUENCY DRIVE (15-20 HP)	AHU-002 SF VFD		126	D5010	50	HP	$22,575	2023
MC03	MOTOR CONTROL CENTER VERTICAL SECTION, 600V (600-800A) W/STARTERS	GE MCC		126	D5010	1	EA	$151,159	2023
SG02	MAIN SWITCHBOARD W/BREAKERS (400-600 AMP)	WESTINGHOUSE		112A	D5010	400	AMP	$37,390	2023
SG02	MAIN SWITCHBOARD W/BREAKERS (400-600 AMP)	TRUMBULL ELEC		112A	D5010	600	AMP	$56,085	2023
SG02	MAIN SWITCHBOARD W/BREAKERS (400-600 AMP)	MDP1A		111	D5010	400	AMP	$37,390	2023
VF01	VARIABLE FREQUENCY DRIVE (<=5 HP)	AHU SF VFD		127	D5010	1.50	HP	$1,265	2023

RECURRING NEEDS BY YEAR

All costs shown as Future Value using a 3% average inflation rate

LE03	LIGHTING - EXTERIOR, RECESSED (INC, CFL, LED)	RECESSED		MAIN ENTRY AND COVERED WALK	D5020	5	EA	$1,412	2023
LE03	LIGHTING - EXTERIOR, RECESSED (INC, CFL, LED)	RECESSED FOOT		EXTERIOR	D5020	2	EA	$565	2023
LE07	LIGHTING - EXTERIOR, WALL FLOOD (SV, MH, ID, LED)	SURFACE, SINGLE BULB		EXTERIOR	D5020	2	EA	$2,380	2023
LE07	LIGHTING - EXTERIOR, WALL FLOOD (SV, MH, ID, LED)	SURFACE, HID		EXTERIOR	D5020	1	EA	$1,190	2023
2023 PROJECTED COMPONENT REPLACEMENT COST								**$4,890,359**	

No Projected Component Replacement Cost for Asset No. 033 for 2024

2025									
COMP CODE	**COMPONENT DESCRIPTION**	**IDENTIFIER**	**CUSTOMER ID**	**LOCATION**	**UNI-FORMAT**	**QTY**	**UNITS**	**REPLACEMENT COST**	**YEAR**
RR29	ROOF HATCH - ACCESS			ROOF	B3020	1	EA	$6,054	2025

RECURRING NEEDS BY YEAR

All costs shown as Future Value using a 3% average inflation rate

LI02	LIGHTING SYSTEM, INTERIOR - CLASSROOM	SURFACE, PENDANT, LED RETRO		BUILDING WIDE	D5020	24,142	SF	$296,876	2025
2025 PROJECTED COMPONENT REPLACEMENT COST								**$302,930**	

2026

COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	UNI-FORMAT	QTY	UNITS	REPLACEMENT COST	YEAR
BF02	BACKFLOW PREVENTER (1-2 INCHES)	AHU-001 BF		126	D2020	1	EA	$3,077	2026
SI06	ASPHALT VEHICULAR PAVING - SEALCOAT AND STRIPE	ASPHALT		SERVICE ROAD	G2020	524	SY	$2,491	2026
2026 PROJECTED COMPONENT REPLACEMENT COST								**$5,568**	

2027

COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	UNI-FORMAT	QTY	UNITS	REPLACEMENT COST	YEAR
DR08	DOOR AND FRAME, EXTERIOR, SWINGING, HOLLOW METAL	FULL HEIGHT HM		SHOP CONNECTOR	B2030	8	LEAF	$33,021	2027
DR02	DOOR AND FRAME, INTERIOR, FIRE-RATED	OLD WOOD		MOST AREAS	C1020	28	LEAF	$141,838	2027

RECURRING NEEDS BY YEAR

All costs shown as Future Value using a 3% average inflation rate

DR02	DOOR AND FRAME, INTERIOR, FIRE-RATED	OLD HM		209	C1020	1	LEAF	$5,066	2027
SG06	MAIN SWITCHBOARD W/BREAKERS (1600-2500 AMP)	MAIN SW. BOARD		111	D5010	2,000	AMP	$225,024	2027
SG11	MC SWGR BREAKER - FME Adjustable (600-800 AMP)	MAIN BREAKER		111	D5010	2,000	AMP	$71,406	2027
SG04	MAIN SWITCHBOARD W/BREAKERS (800-1200 AMP)	DIMMER PANEL		DIMMER ROOM (214)	D5010	800	AMP	$79,933	2027
2027 PROJECTED COMPONENT REPLACEMENT COST								**$556,287**	

2028

COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	UNI-FORMAT	QTY	UNITS	REPLACEMENT COST	YEAR
AH07	AIR HANDLING UNIT - INDOOR (9-12 HP)	033-AHU-001		126	D3040	10	HP	$113,886	2028
AH09	AIR HANDLING UNIT - INDOOR (17-23 HP)	033-AHU-002		126	D3040	20	HP	$181,794	2028
FN34	FAN - UTILITY SET, 1/4" SP (4-12 HP)	RETURN AIR FAN #5		126	D3040	7.50	HP	$23,841	2028
FA01	FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER	SCENE SHOP FACP		101	D4030	1	EA	$2,641	2028
FA01	FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER	BUILDING FACP		111	D4030	1	EA	$21,130	2028

RECURRING NEEDS BY YEAR

All costs shown as Future Value using a 3% average inflation rate

FA02	FIRE ALARM SYSTEM - DEVICES	DETECTORS, NOTIFIERS		BUILDING WIDE	D4030	36,292	SF	$192,151	2028
LE07	LIGHTING - EXTERIOR, WALL FLOOD (SV, MH, ID, LED)	SURFACE, LED		EXTERIOR	D5020	4	EA	$5,518	2028
LE07	LIGHTING - EXTERIOR, WALL FLOOD (SV, MH, ID, LED)	SPOT LIGHT, UPWARD		SITE	D5020	5	EA	$6,897	2028
						2028 PROJECTED COMPONENT REPLACEMENT COST		**$547,856**	

2029

COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	UNI-FORMAT	QTY	UNITS	REPLACEMENT COST	YEAR
IF15	FLOORING - FLUID APPLIED, PAINT OR CLEAR SEAL			209	C3020	1,820	SF	$8,040	2029
						2029 PROJECTED COMPONENT REPLACEMENT COST		**$8,040**	

2030

COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	UNI-FORMAT	QTY	UNITS	REPLACEMENT COST	YEAR

RECURRING NEEDS BY YEAR

All costs shown as Future Value using a 3% average inflation rate

FN02	FAN - AXIAL, RETURN, 1.5" SP (3-5 HP) 13,200 CFM	RF		126	D3040	3	HP	$10,788	2030
BA25	HVAC CONTROLS - FIELD PANELS/OPS SOFTWARE - CLASSROOM	CONTROL PANELS AND SOFTWARE		BUILDING WIDE	D3060	36,292	SF	$46,549	2030
BA48	HVAC CONTROLS - MAJOR INSTRUMENTATION - CLASSROOM	CLASSROOM MAJOR INST.		BUILDING WIDE	D3060	24,292	SF	$15,882	2030
BA68	HVAC CONTROLS - MAJOR INSTRUMENTATION - THEATER	THEATER MAJOR INST.		AUDITORIUM AND STAGE	D3060	8,000	SF	$7,102	2030
						2030 PROJECTED COMPONENT REPLACEMENT COST		**$80,321**	

2031

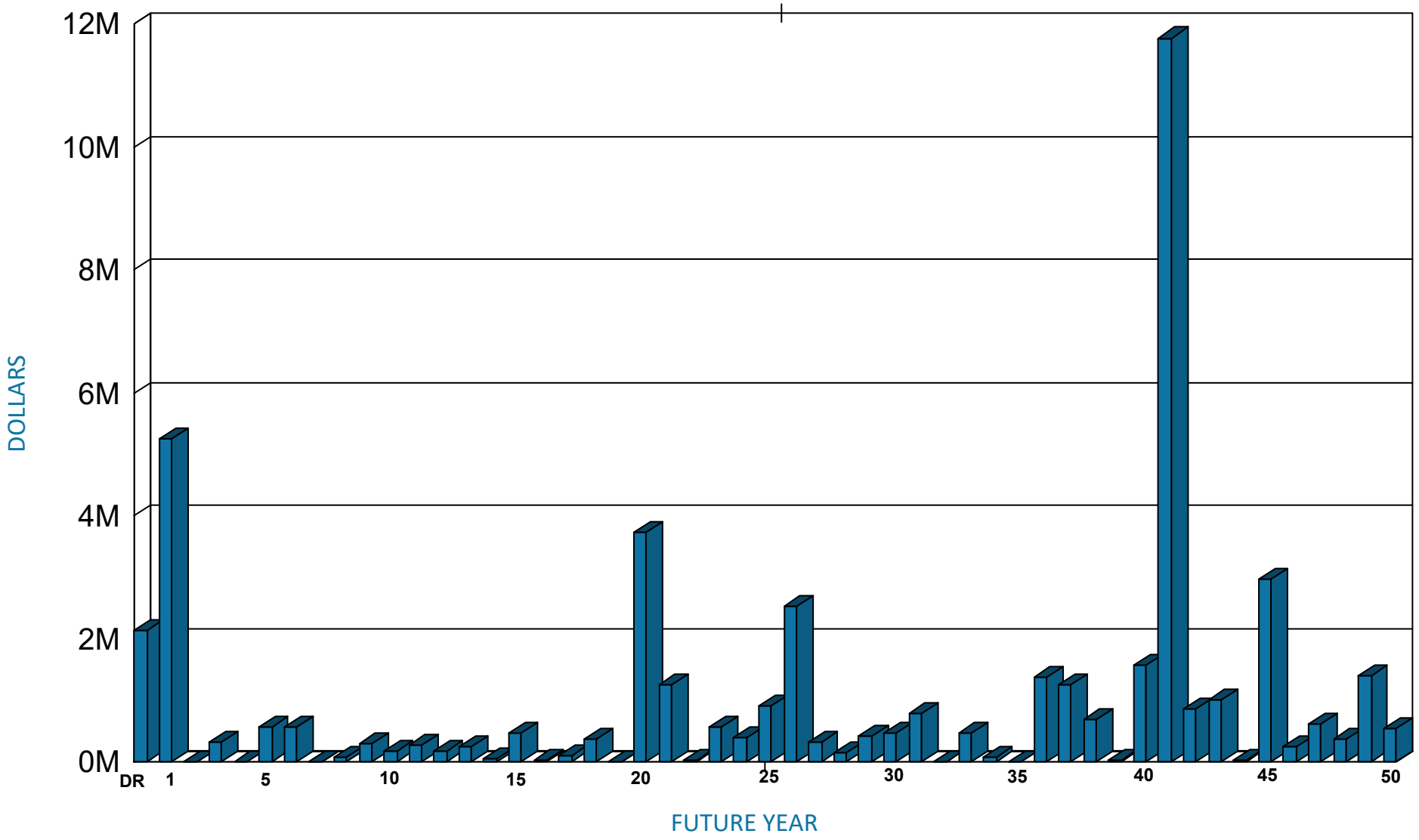
COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	UNI-FORMAT	QTY	UNITS	REPLACEMENT COST	YEAR
IW01	WALL FINISH - PAINT, STANDARD	STD PAINT		MOST AREAS	C3010	23,050	SF	$78,667	2031
WH13	WATER HEATER - COMMERCIAL, ELECTRIC (70-90 GAL)	AO SMITH		111	D2020	80	GAL	$20,749	2031
LI22	LIGHTING SYSTEM, INTERIOR - THEATER			AUDITORIUM AND STAGE	D5020	12,000	SF	$196,210	2031
						2031 PROJECTED COMPONENT REPLACEMENT COST		**$295,626**	

RECURRING NEEDS BY YEAR

All costs shown as Future Value using a 3% average inflation rate

2032									
COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	UNI-FORMAT	QTY	UNITS	REPLACEMENT COST	YEAR
RR07	ROOF - BITUMINOUS, 2-PLY, APPLIED MODIFIED BITUMEN, TORCH	MOD BIT		ROOF	B3010	10,960	SF	$156,839	2032
						2032 PROJECTED COMPONENT REPLACEMENT COST		$156,839	

RECURRING COMPONENT EXPENDITURE PROJECTIONS

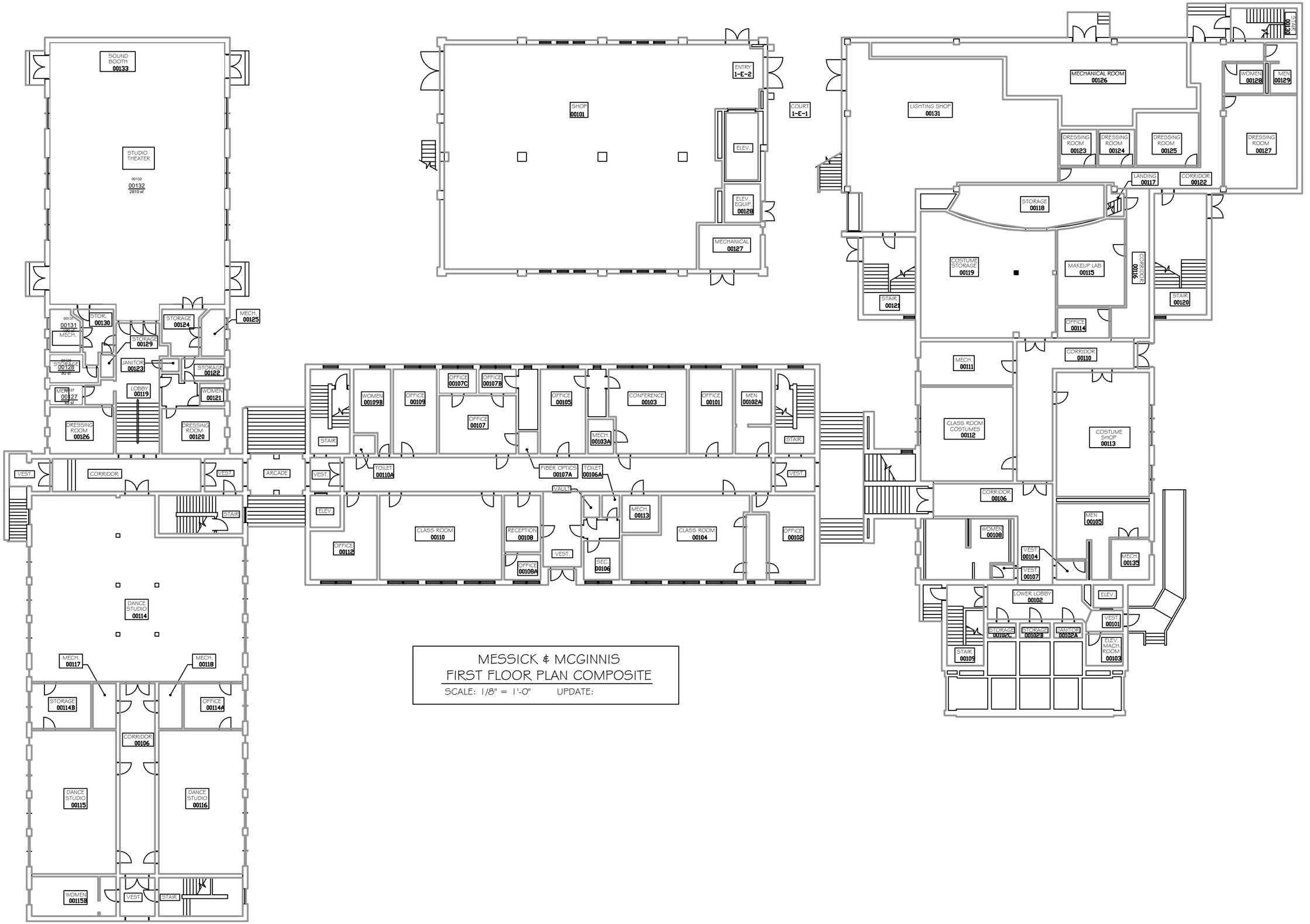


Average Annual Renewal Cost per SF $12.52

FACILITY CONDITION ASSESSMENT

SECTION 5

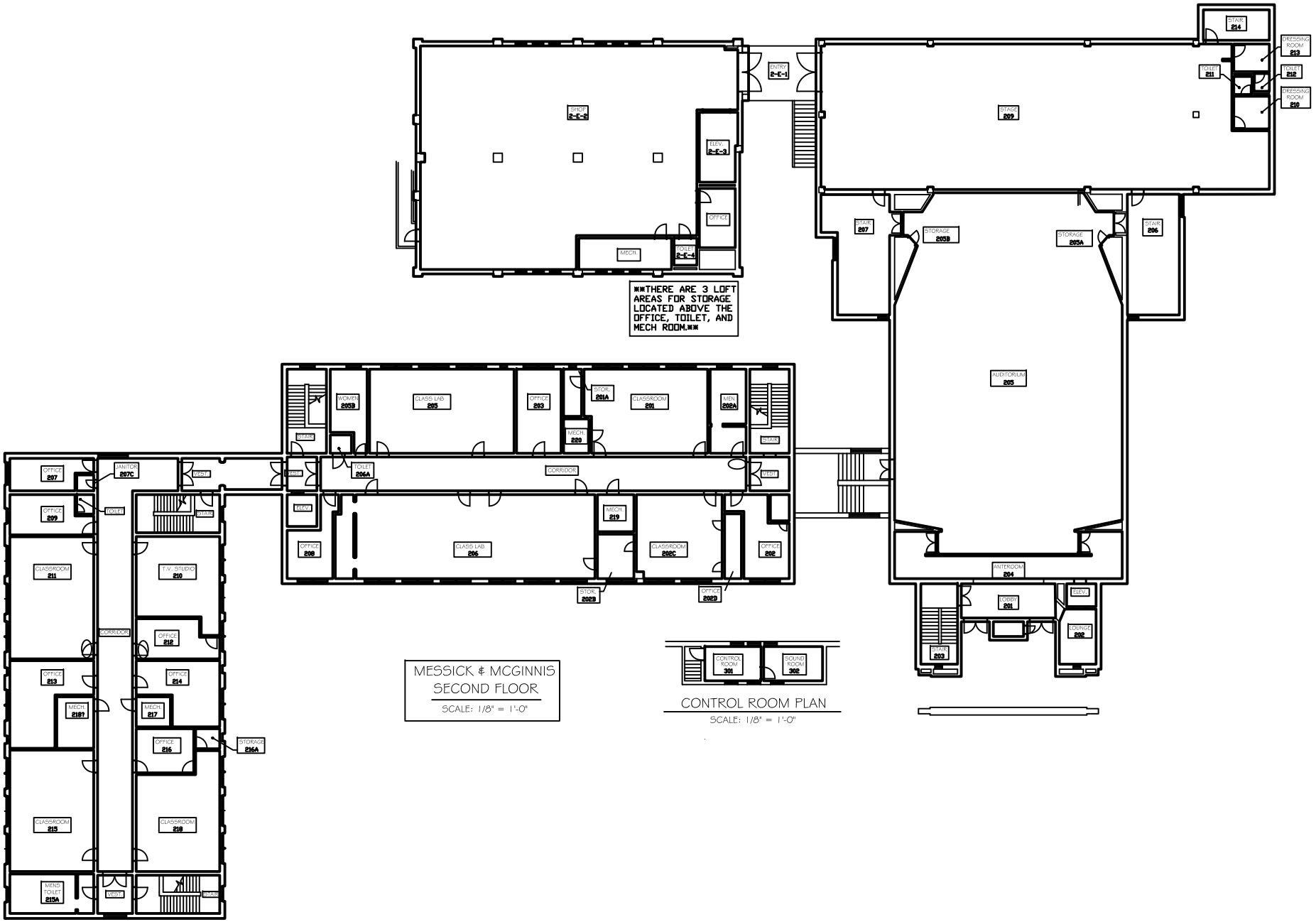
DRAWINGS



MESSICK & MCGINNIS

FIRST FLOOR PLAN COMPOSITE

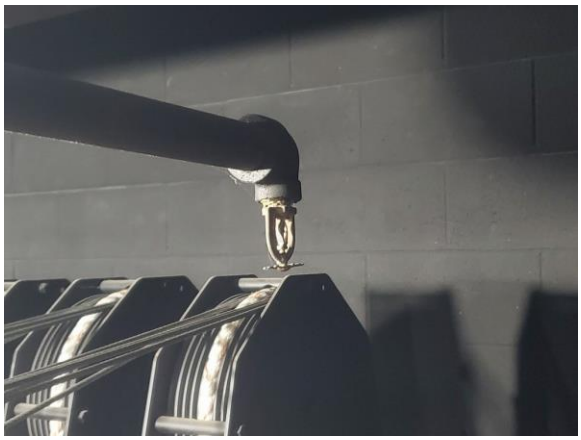
SCALE: 1/8" = 1'-0" UPDATE:


STAIR 214
DRESSING ROOM 213
TOILET 211
TOILET 212
DRESSING ROOM 210
STAGE 209
ENTRY 2-E-1
SHOP 2-E-2
ELEV. 2-E-3
OFFICE
MECH.
TOILET 2-E-4
STAIR 207
STORAGE 205B
STORAGE 205A
STAIR 206
AUDITORIUM 205
THERE ARE 3 LOFT AREAS FOR STORAGE LOCATED ABOVE THE OFFICE, TOILET, AND MECH ROOM.
WOMEN 205D
CLASS LAB 205
OFFICE 203
STOR. 201A
CLASSROOM 201
MEN 202A
MECH. 220
STAIR
TOILET 206A
CORRIDOR
WEST
ELEV.
MECH. 219
OFFICE 208
CLASS LAB 206
CLASSROOM 202C
OFFICE 202
STOR. 202B
OFFICE 202D
ANTEROOM 204
LOBBY 201
ELEV.
LOUNGE 202
STAIR 203
OFFICE 207
JANITOR 207C
OFFICE 209
TOILET
CLASSROOM 211
T.V. STUDIO 210
CORRIDOR
OFFICE 212
OFFICE 213
MECH. 218?
OFFICE 214
MECH. 217
OFFICE 216
STORAGE 216A
CLASSROOM 215
CLASSROOM 218
MENS TOILET 215A
WEST
EAST
MESSICK & MCGINNIS
SECOND FLOOR
SCALE: 1/8" = 1'-0"
CONTROL ROOM 301
SOUND ROOM 302
CONTROL ROOM PLAN
SCALE: 1/8" = 1'-0"

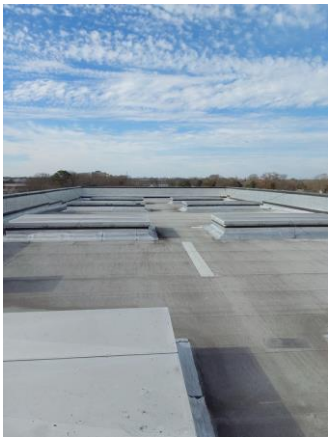
SECTION 6

PHOTOGRAPHS

033001a 1/10/2023
Overflow scupper of stage roof
Stage roof

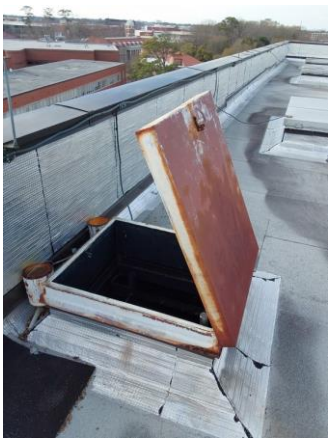


033001e 1/10/2023
Fire suppression system sprinkle head
Auditorium mezzanine



033002a 1/10/2023
Roof photo showing smoke vents
Stage roof

033002e 1/10/2023
Fire alarm pull station
Stage 209

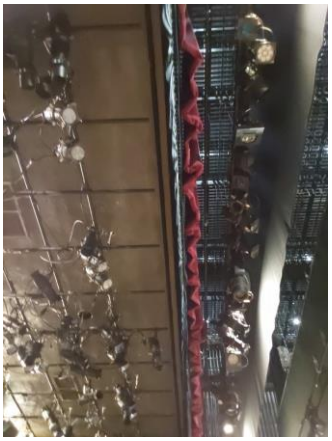


033003a 1/10/2023
Rusted roof hatch
Stage roof

033003e 1/10/2023
Fire alarm system notifier
Stage 209

033004a 1/10/2023
Deteriorating stage floor
Room 209

033004e 1/10/2023
Overview of theater lighting
Stage 209



033005a 1/10/2023
Stage fire curtain
Room 209

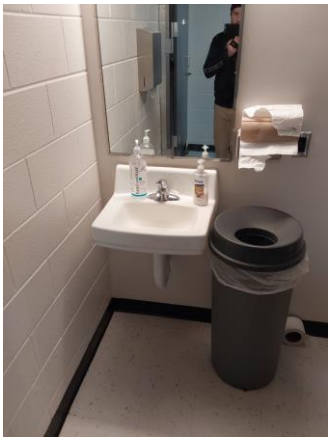
033005e 1/10/2023
Fan coil F-3
Dimmer room 214

033006a 1/10/2023
Single water fountain
Room 209

033006e 1/10/2023
Aged lighting and distribution piping
Dimmer room 214

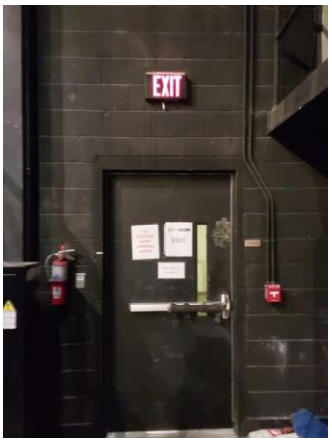
033007a 1/10/2023
Dressing room water closet
Room 210

033007e 1/10/2023
800-amp dimmer panel
Dimmer room 214



033008a 1/10/2023
Dressing room sink
Room 213

033008e 1/10/2023
Metal HVAC ductwork
Dimmer room 214

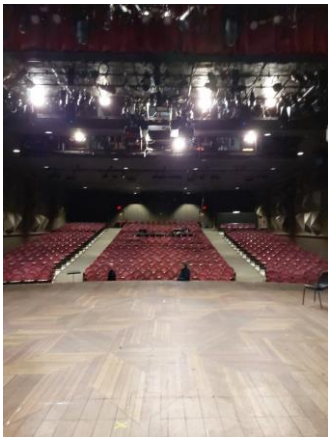


033009a 1/10/2023
Exit door with signage, panic hardware, and safety glass
Room 209

033009e 1/10/2023
Recessed auditorium lighting
Auditorium 205

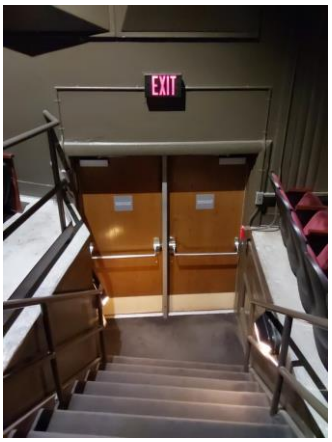
033010a 1/10/2023
Exit door with typical panic hardware and signage
Room 209

033010e 1/10/2023
Passenger elevator lighting
Elevator



033011a 1/10/2023
Auditorium with 510 seats
Room 209

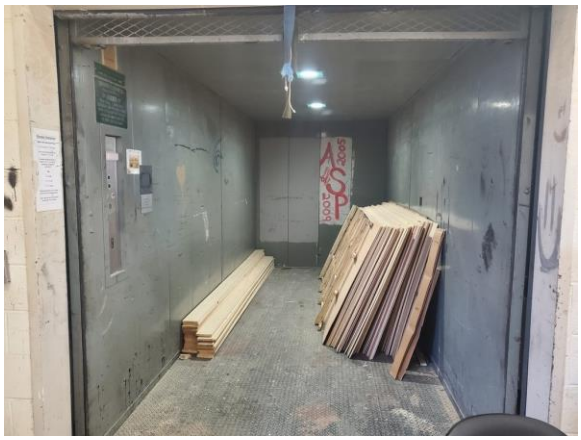
033011e 1/10/2023
Passenger elevator controls
Elevator



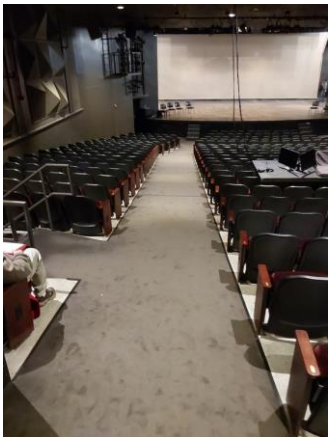
033012a 1/10/2023
Auditorium exit door with old panic hardware
Room 209

033012e 1/10/2023
2x4 recessed lighting
Scene shop 2-E-2

033013a 1/10/2023
Auditorium wheelchair zone
Room 209

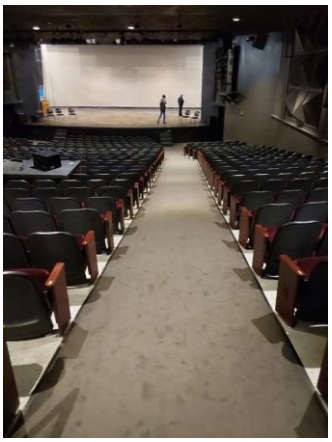


033013e 1/10/2023
Freight elevator
Freight elevator



033014a 1/10/2023
Missing aisle handrail
Room 209

033014e 1/10/2023
Freight elevator control
Freight elevator

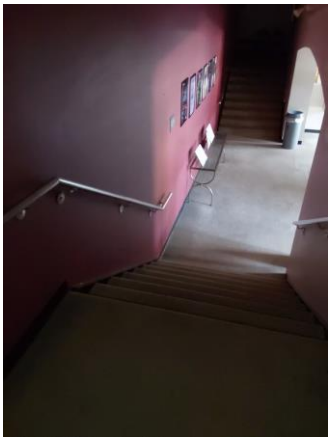


033015a 1/10/2023
Missing aisle handrail and ADA locations
Room 209

033015e 1/10/2023
Aged light switches
Scene shop 2-E-2

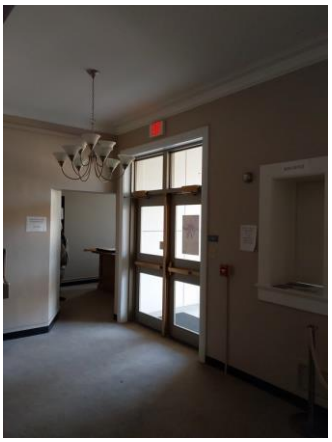
033016a 1/10/2023
Acoustic panel wall
Room 209

033016e 1/10/2023
Emergency eyewash/drench hose
Room 204



033017a 1/10/2023
Auditorium entry stair
Room 204

033017e 1/10/2023
Aged surface-mounted light fixture
Room 203

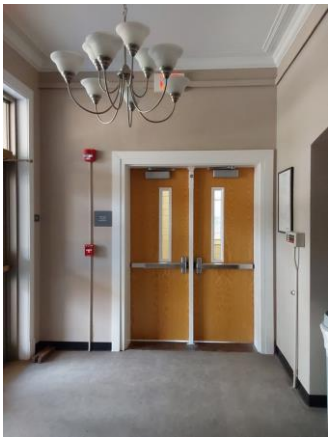


033018a 1/10/2023
Auditorium entrance doors with panic hardware
Room 201

033018e 1/10/2023
Aged supply and waste piping
Room 203

033019a 1/10/2023
Large laminate case work inside
Room 202

033019e 1/10/2023
Typical rooftop exhaust fan
Scene shop roof



033020a 1/10/2023
Stairwell doors with panic hardware and safety glass
Room 201

033020e 1/10/2023
Fire alarm control panel for Scene shop
Scene shop 2-E-2

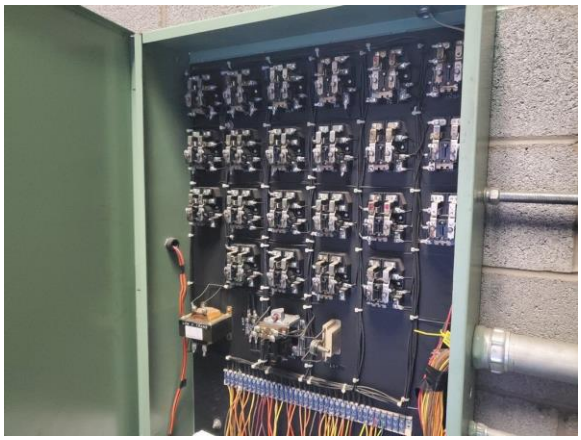
033021a 1/10/2023
Noncompliant elevator control board
Room 202

033021e 1/10/2023
1980s vintage secondary electrical equipment
Scene shop room 101

033022a 1/10/2023
Painted exterior stage door
2-E-1

033022e 1/10/2023
Aged hydraulic elevator machine
Elevator machine room 128

033023a 1/10/2023
Painted exterior shop door
2-E-1



033023e 1/10/2023
Aged elevator machine controls
Elevator machine room 128

033024a 1/10/2023
Aluminum windows
2-E-1

033024e 1/10/2023
Trane air handler
Mechanical 127

033025a 1/10/2023

Shop restroom

2-E-1

033025e 1/10/2023

Corroded pipe and damaged insulation

Mechanical 127

033026a 1/10/2023

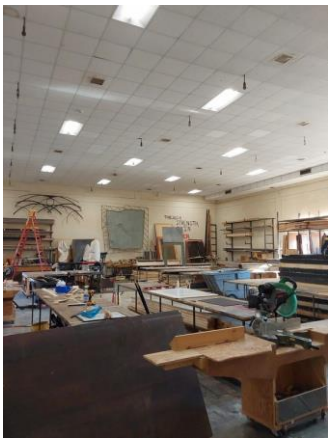
Noncompliant water fountain

2-E-1

033026e 1/10/2023

Aged duct detector

Mechanical 127



033027a 1/10/2023

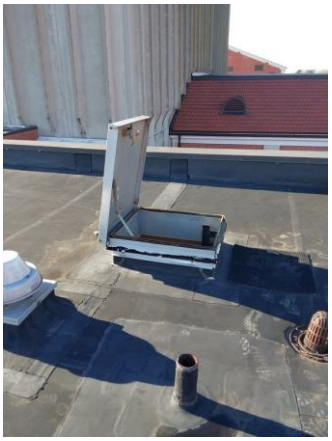
Shop finishes

2-E-1

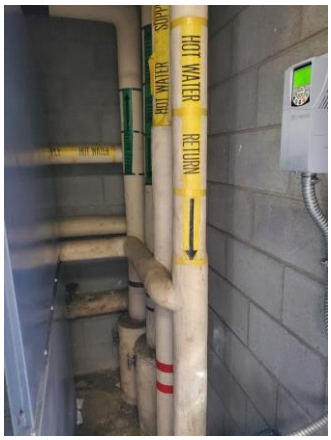
033027e 1/10/2023

Reciprocating air compressor

Mechanical 127



033028a 1/10/2023
Roof hatch with missing fall protection
2-E-1



033028e 1/10/2023
Heating and chilled water pipe systems
Mechanical 127

033029a 1/10/2023
EPDM roof with parapet wall
2-E-1

033029e 1/10/2023
Variable speed drive for air handler
Mechanical 127

033030a 1/10/2023
EPDM roof patches
2-E-1

033030e 1/10/2023
Trane air handler
Mechanical 127

033031a 1/10/2023

Partial roof ladder safety hazard

2-E-1

033031e 1/10/2023

Aged pneumatic controls and corroded pipe

Mechanical 127

033032a 1/10/2023

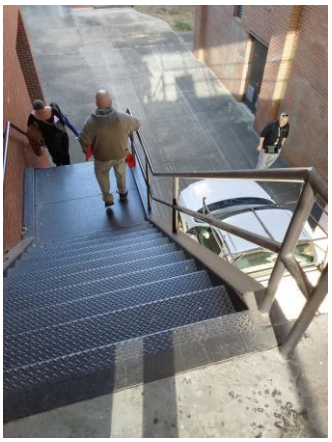
Exit door with panic hardware

2-E-1

033032e 1/10/2023

Reciprocating air compressor

Mechanical 127



033033a 1/10/2023

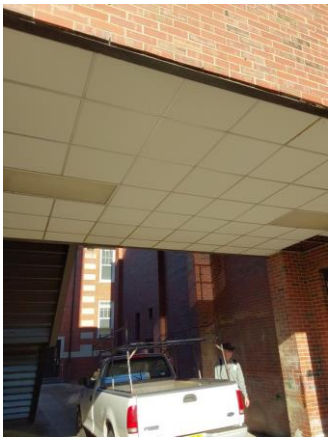
Exterior stair with noncompliant handrail

2-E-1

033033e 1/10/2023

Electric domestic water heater

Mechanical 127



033034a 1/10/2023

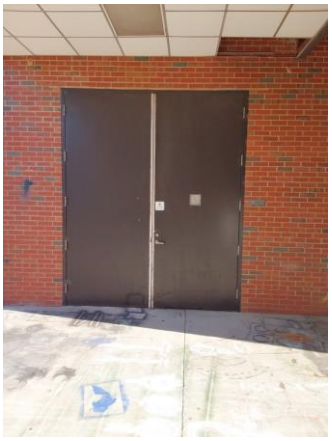
Portico soffit

2-E-1

033034e 1/10/2023

Metal HVAC distribution ductwork

Mechanical 127



033035a 1/10/2023

Hollow-metal door

Room 131

033035e 1/10/2023

Overview of systems

Corridor 106

033036a 1/10/2023

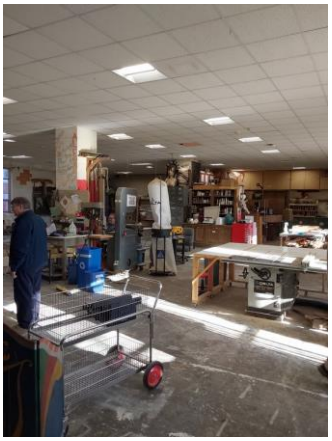
Exterior shop door

2-E-1

033036e 1/10/2023

Surface-mounted lighting

Restroom 105



033037a 1/10/2023

Shop finishes

Room 101

033037e 1/10/2023

Smoke/heat detector

Restroom 105

033038a 1/10/2023

Noncompliant water fountain

Room 101

033038e 1/10/2023

Hydraulic elevator machine

Elevator machine room 103

033039a 1/10/2023

Fire extinguisher cabinet and alarm

Room 101

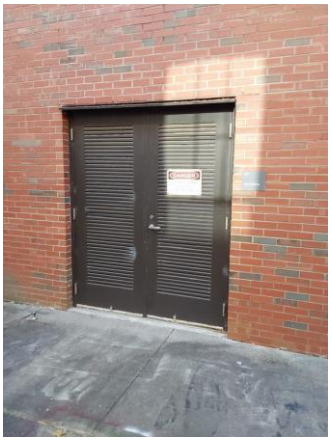
033039e 1/10/2023

Aged elevator machine controls

Elevator machine room 103

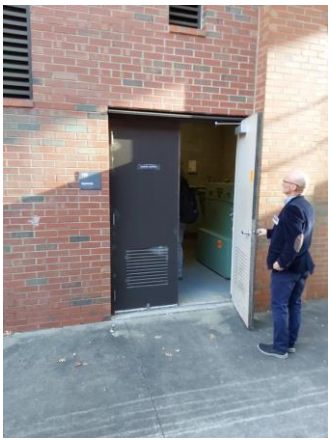
033040a 1/10/2023
Exterior shop door with inset
Room 101

033040e 1/10/2023
Fire system backflow with bypass
Sprinkler riser room 135



033041a 1/10/2023
Exterior electrical room to shop
Room 127

033041e 1/10/2023
Domestic water system backflow devices
Sprinkler riser room 135



033042a 1/10/2023
Elevator room doors
Room 128

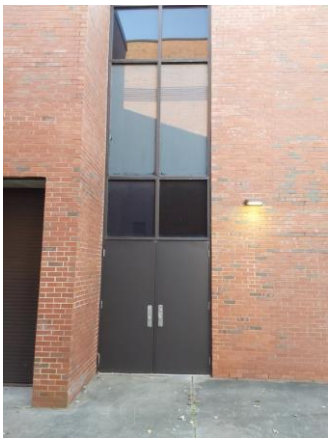
033042e 1/10/2023
Aged, open cell lighting
Room 112

033043a 1/10/2023
Deteriorated seals on shop windows
Room 101

033043e 1/10/2023
Original electrical switchboard
Room 112A

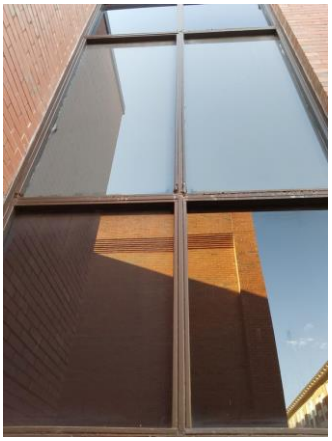
033044a 1/10/2023
Overhead coiling door
Room 131

033044e 1/10/2023
Original electrical switchboard
Room 112A



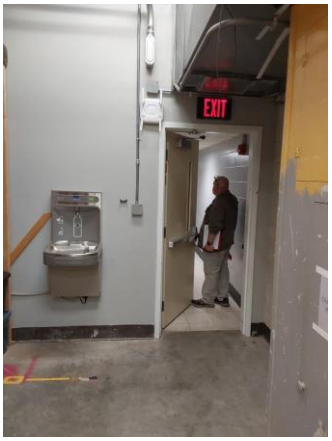
033045a 1/10/2023
Exterior hollow-metal door
Room 121

033045e 1/10/2023
Leaking main steam pipe
Room 112A



033046a 1/10/2023
Deteriorated steel mullions
Room 121

033046e 1/10/2023
Main fire alarm control panel
Mechanical 111

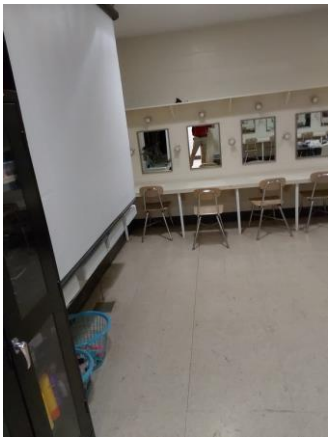


033047a 1/10/2023
Exit door with panic hardware, exit signage, and single height water fountain
Room 131

033047e 1/10/2023
208V, 800A automatic transfer switch
Mechanical 111

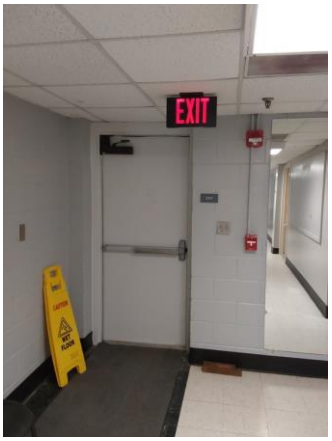
033048a 1/10/2023
Dressing room sinks
Room 125

033048e 1/10/2023
2000A switchboard with main breaker
Mechanical 111



033049a 1/10/2023
Dressing room sinks and mirrors
Room 127

033049e 1/10/2023
Electric domestic water heater
Mechanical 111



033050a 1/10/2023
Exit door with panic hardware and signage
Room 122

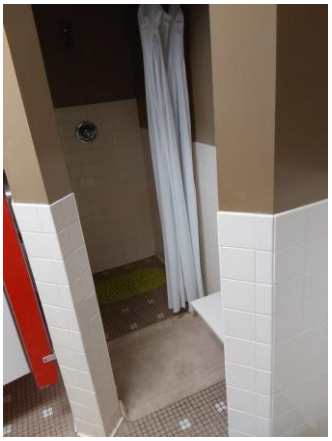
033050e 1/10/2023
Updated LED lighting
Room 115

033051a 1/10/2023
Wall-hung lavatories
Room 128

033051e 1/10/2023
Shell-and-tube heat exchanger
Mechanical 126

033052a 1/10/2023
Toilet partitions
Room 128

033052e 1/10/2023
Aged hydronic unit heater
Mechanical 126



033053a 1/10/2023
Noncompliant shower
Room 128

033053e 1/10/2023
Air handler return fan
Mechanical 126

033054a 1/10/2023
Noncompliant water fountain
Room 122

033054e 1/10/2023
Updated isolation valves on heat exchanger
Mechanical 126

033055a 1/10/2023
Wall-hung lavatories
Room 129

033055e 1/10/2023
Heating water pump
Mechanical 126

033056a 1/10/2023
Shower
Room 129

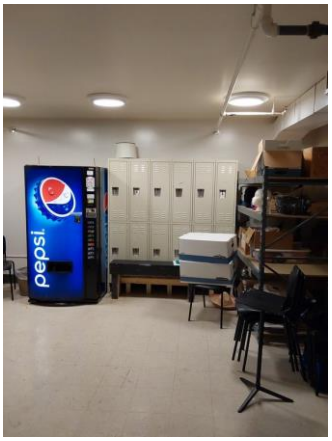
033056e 1/10/2023
Air handler
Mechanical 126

033057a 1/10/2023
Urinal and ceramic finishes
Room 129

033057e 1/10/2023
Updated control components for major instrumentation
Mechanical 126

033058a 1/10/2023
Toilet partition
Room 129

033058e 1/10/2023
Aged motor control center
Mechanical 126



033059a 1/10/2023
Lockers room
Room 115

033059e 1/10/2023
Reciprocating air compressor
Mechanical 126

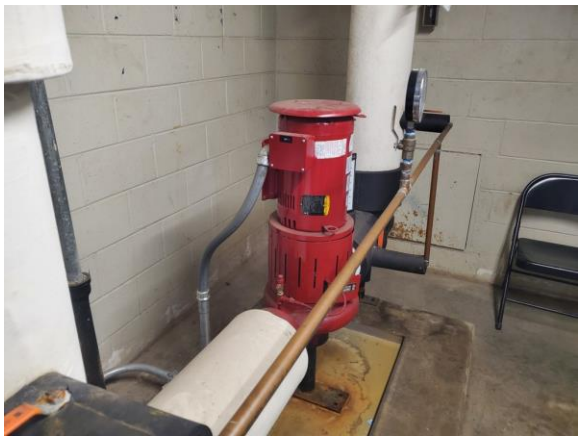
033060a 1/10/2023
Exterior door with old panic hardware and exit signage
Room 110

033060e 1/10/2023
Utility set return fan #5
Mechanical 126

033061a 1/10/2023
Asbestos acoustic ceiling tile and 9x9 tile
Room 112

033061e 1/10/2023
Updated controls on distribution piping
Mechanical 126

033062a 1/10/2023
Exterior door with old panic hardware
Room 106



033062e 1/10/2023
Chilled water pump
Mechanical 126

033063a 1/10/2023
Wall-hung lavatories
Room 105

033063e 1/10/2023
Updated HVAC control system components
Mechanical 126

033064a 1/10/2023
Toilet partitions
Room 105

033064e 1/10/2023
Surface-mounted LED light fixture
Exterior

033065a 1/10/2023
Urinals
Room 105

033065e 1/10/2023
Aged surface mounted light fixture
Exterior

033066a 1/10/2023
Toilet partitions
Room 108

033066e 1/10/2023
Steam kettle hood exhaust fan
Exterior

033067a 1/10/2023
Wall-hung lavatories with mirrors
Room 108

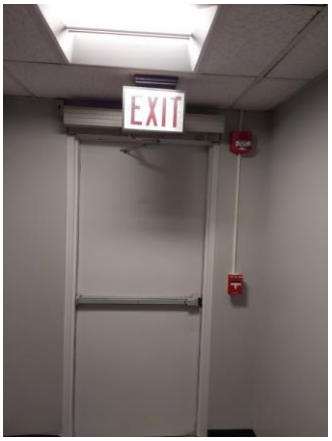
033067e 1/10/2023
Recessed exterior light
Exterior

033068a 1/10/2023
Wall-hung lavatories and ceramic tile
Room 108

033068e 1/10/2023
Aged and corroded recessed exterior lights
Exterior

033069a 1/10/2023
Toilet partitions
Room 108

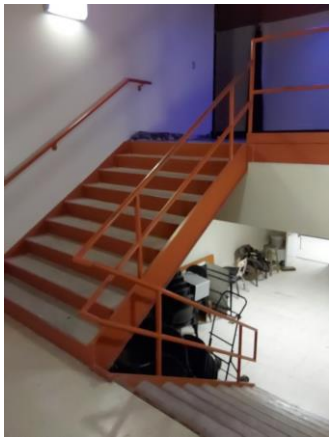
033069e 1/10/2023
Upward illuminating site lighting
Exterior



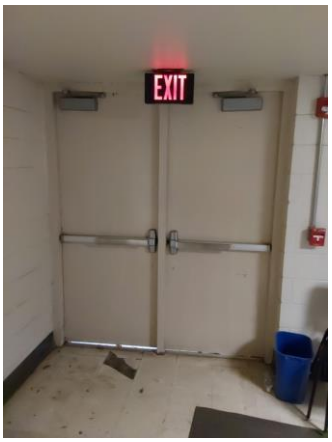
033070a 1/10/2023
Exit door with panic hardware signage
Room 101

033070e 1/10/2023
Diesel-fired emergency generator
Exterior

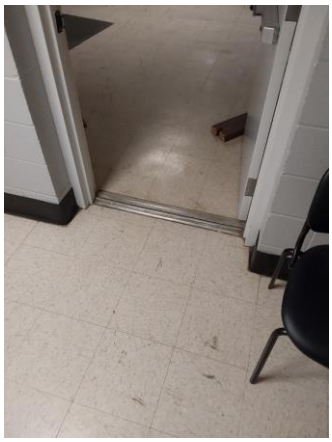
033071a 1/10/2023
Trip hazard and drainage issue
Room 110



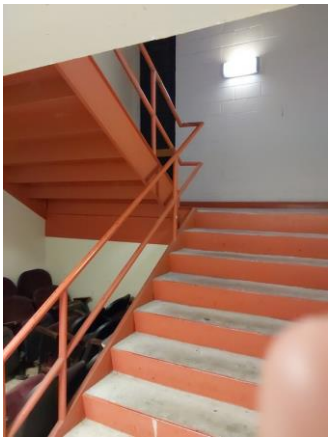
033072a 1/10/2023
Noncompliant stair handrail
Room 120



033073a 1/10/2023
Exit door with panic hardware and exit signage
Room 120



033074a 1/10/2023
Threshold
Room 120

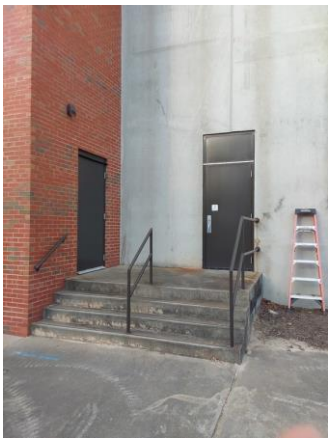


033075a 1/10/2023
Noncompliant stair handrail
Room 121

033076a 1/10/2023
Exterior mechanical louvers
South elevation

033077a 1/10/2023
Exterior concrete wall
South elevation

033078a 1/10/2023
Exterior hollow-metal door and dock
South elevation



033079a 1/10/2023
Exterior hollow-metal doors
South elevation

033080a 1/10/2023
Deteriorated steel mullions with grime on wall
West elevation

033081a 1/10/2023
Exterior brick, stone, and glazing
West elevation

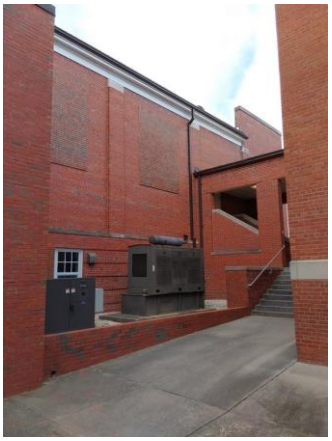
033082a 1/10/2023
Efflorescence on dumpster walls
West elevation

033083a 1/10/2023
ADA ramp
West elevation

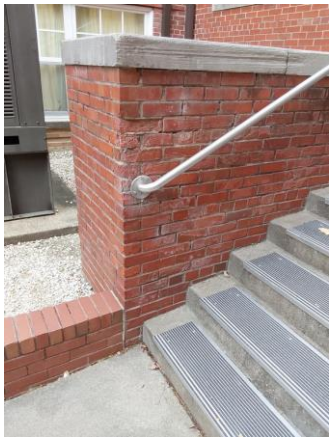
033084a 1/10/2023
Exterior brick, stone, and glazing
North elevation

033085a 1/10/2023
Building connector
North elevation

033086a 1/10/2023
Building connector ceiling
West arcade

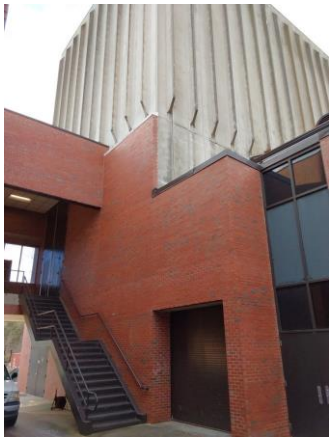


033087a 1/10/2023
Exterior brick and glazing
East elevation

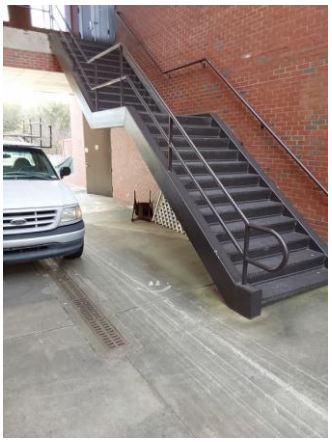


033088a 1/10/2023
Damaged brick on stairway
West arcade

033089a 1/10/2023
Damaged brick on wall
East elevation



033090a 1/10/2023
Exterior brick, glazing, and doors
East elevation



033091a 1/10/2023
Stair with missing cane rail
East elevation

033092a 1/10/2023
Exterior brick and glazing with drive
Shop south elevation

033093a 1/10/2023
Exterior brick and hollow-metal doors
Shop east elevation

033094a 1/10/2023
Exterior brick and glazing
Shop north elevation

FACILITY CONDITION ASSESSMENT

SECTION 7

PRELIMINARY ENERGY ASSESSMENT

INTRODUCTION

A Preliminary Energy Assessment (PEA) was conducted to identify energy conservation opportunities. The PEA is intended to be a preliminary energy screening only. The goal is to identify potential energy savings opportunities in a building. It is not equivalent to an American Society of Heating, Refrigeration, or Air Conditioning Engineers (ASHRAE) Level 1, 2, or 3 audit. The PEA has two sections: 1) Benchmarking Data and 2) Energy Conservation Opportunities. Basic building information is provided in **Table 1**.

TABLE 1. BUILDING INFORMATION	
Client	East Carolina University
Asset Number	033
Asset Name	McGinnis Auditorium
Year Built or Last Energy Renovation	1982

BENCHMARKING DATA

The purpose of benchmarking building performance is to determine how well a building performs in comparison to other similar buildings. For this analysis, buildings were assessed based on their primary use (e.g., education, food sales, food service, etc.) and year constructed. Two metrics -- energy use intensity and energy end use -- are presented for the building manager to use to assess how efficiently the building performs compared to similar buildings.

Metric #1: Energy Use Intensity (EUI)

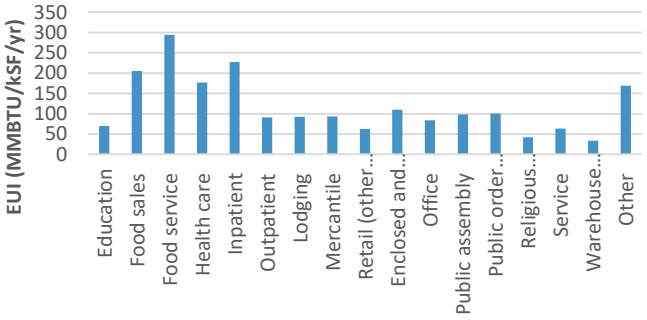
EUI is a measure of energy consumption per square foot of building space per year. The units of measurement are million British thermal units per thousand square foot per year (MMBTU/kSF/yr). The US-DOE EUI can be compared to the actual EUI of the client building to determine how efficient the building is compared to other similar buildings. A building manager can calculate EUI by summing total energy consumption per year (in MMBTU/yr) and dividing it by the building area (in kSF). Benchmarking data from the U.S. Energy Information Administration (EIA) Commercial Building Energy Consumption Survey (CBECS) database was used for this analysis.

Basic information about the building use and the time of the most recent major HVAC or lighting upgrade is provided in **Table 2**. That information is used to determine the Benchmark EUI. The building manager can calculate the Building EUI and compare it to the Benchmark EUI to determine how building efficiency compares to similar buildings (see **Table 3**). In addition, **Figure 1** shows the EUIs of various building types for further comparison.

TABLE 2. BUILDING DETAILS	
FCA Building Type	Theater
Energy Information Administration Equivalent Building Type	Public assembly
Range of Years Constructed/Last Major Energy Renovation	1960 to 1989
Benchmark EUI (MMBTU/kSF/yr) =	**97.9**
Building EUI to be Calculated by Client (MMBTU/kSF/yr) =	

TABLE 3. EUI COMPARISON	
Very Energy Efficient (consumes more than 30% less energy)	EUI < 68.5
Energy Efficient (consumes 10% to 30% less energy)	68.5 <= EUI <= 88.1
Similar (consumes within 10% less or 10% more energy)	88.1 < EUI < 107.7
Energy Inefficient (consumes 10% to 30% more energy)	107.7 <= EUI <= 127.3
Very Energy Inefficient (consumes more than 30% more energy)	EUI > 127.3

Figure 1. EUIs for Buildings Constructed/Renovated 1960 to 1989

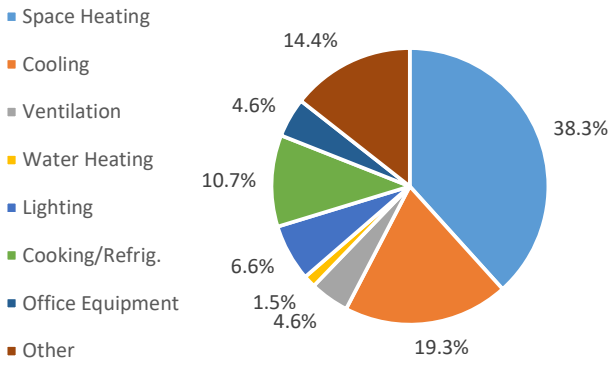


Metric #2: Energy End Use

Energy end use data characterizes how energy is used by profiling energy consumption into end use categories such as space heating, cooling, ventilation, lighting, etc. When energy end use data is presented in a pie chart, high energy-consuming activities are readily identified. A building manager can determine the energy end use profile for a building by analyzing trend data from a Building Automation System and/or Energy Management Control System.

TABLE 4. ENERGY END USE PROFILE: THEATER	
Space Heating	38.3%
Cooling	19.3%
Ventilation	4.6%
Water Heating	1.5%
Lighting	6.6%
Cooking/Refrig.	10.7%
Office Equipment	4.6%
Other	14.4%
Total	100.0%

Figure 2. Energy End Use Profile: Theater



References:
1. U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy. "Technologies and Products by Category." Efficient Technologies and Products for Federal Facilities. DOE. http://energy.gov/eere/femp/efficient-technologies-and-products-federal-facilities. Accessed: June 2016.

2. U.S. Energy Information Administration [EIA]. "2012 CBECS Survey Data." Commercial Building Energy Consumption Survey. EIA. http://www.eia.gov/consumption/commercial/data/2012/index.cfm?view=consumption#c1-c12, Accessed: June 2016.

ENERGY CONSERVATION OPPORTUNITIES

This section presents energy conservation measures (ECMs) recommended for further investigation. Recommended ECMs are categorized into one or more cost categories to indicate an approximate level of resources required to implement the ECM. These cost categories are:

Operation and Maintenance Measures (O&M): O&M actions usually (a) can be completed by in-house maintenance personnel and (b) result in an immediate return on investment.

Low-Cost/No-Cost Measures (LC/NC): LC/NC measures typically (a) can be done by in-house personnel, (b) require little to no investment cost, and (c) result in significant energy savings. In other words, LC/NC measures typically have a quick payback period (less than one year).

Capital Improvement Measures (CAP): CAP measures are major capital investments that usually require significant time (i.e., approximately six months to three years) for planning, design, and implementation. Oftentimes, a request for proposal, design/bid/build (D/B/B), and/or design/build (D/B) package is required. The return on investment for CAP projects ranges significantly, varying from a payback period from one to twenty plus years.

ECM CATEGORY	ECM RECOMMENDED FOR FURTHER CONSIDERATION	COST CATEGORY
Building Envelope - Roof Material	INSTALL A COOL ROOF PRODUCT. Cool roofs reflect sunlight/reduce solar heat gain. ENERGY STAR qualified cool roof products can lower roof surface temperature by up to 50°F, significantly decreasing the amount of heat transferred into a building.	CAP
Building Envelope - Window/Door Heat Gain/Loss	INCREASE THE R-VALUE OF THE WINDOWS/DOORS. ENERGY STAR qualified fenestration products such as windows and doors can minimize HVAC energy consumption by reducing solar heat gain/loss.	CAP
Lighting - Interior	INSTALL EFFICIENT LIGHTING FIXTURES. While incandescent lamp fixtures have a low initial cost, the lamps are energy inefficient and have a short useful life. Consider CFL and LED lighting instead. HID lamps are necessary in some applications; however, alternatives such as high bay, T5 lighting fixtures or LED fixtures should be considered as an alternate. T12 lamps are an outdated lighting technology that should be replaced with newer technologies such as T8, T5, or LED lamp fixtures.	N/A, Varies
Lighting - Interior, Controls	INSTALL LIGHTING CONTROLS. Oftentimes, lighting fixtures on switches do not get turned off when a space is unoccupied. Occupancy sensors, photocell sensors, and lighting control systems can help reduce lighting energy consumption. For example, consider installing occupancy sensors in offices, common areas, and other areas that have variable occupancy. In areas where there is natural lighting, consider using photocell sensors to dim or shut off fixtures that aren't needed. Alternatively, install a comprehensive light control system that uses time clock schedules, occupancy sensors, photocell sensors, etc., to monitor and control lighting throughout an entire building.	N/A, Varies
Lighting - Exterior	INSTALL EFFICIENT LIGHTING FIXTURES. While incandescent lamp fixtures have a low initial cost, the lamps are energy inefficient and have a short useful life. Consider CFL and LED lighting instead. HID lamps are necessary in some applications; however, alternatives such as high intensity T5 or LED fixtures should be considered. T12 lamps are an outdated lighting technology that should be replaced with newer technologies such as high intensity fluorescent or LED lamp fixtures.	N/A, Varies

ECM CATEGORY	ECM RECOMMENDED FOR FURTHER CONSIDERATION	COST CATEGORY
Lighting - Exterior, Controls	INSTALL LIGHTING CONTROLS. Consider using photocell sensors or timeclocks to shut off building/parking lot fixtures during daylight hours.	N/A, Varies
HVAC - Air Dist. Network Insulation	INSULATE DUCTWORK. Insulating HVAC ductwork reduces heat loss and decreases energy consumption.	CAP
HVAC - Air Dist. Network, VAV	INSTALL VARIABLE AIR VOLUME (VAV) SYSTEM. In constant air volume (CAV) systems, more energy is required to heat, cool, and distribute air than in VAV systems. Consider a VAV system to reduce energy consumption, mainly fan energy consumption.	CAP
HVAC - Building Comfort/Tuning	CONDUCT RETROCOMMISSIONING (RCX). RCx the building to identify and address operating deficiencies, optimize HVAC operations, reduce energy bills, and improve occupant comfort.	CAP
Plumbing - DHW Heater Efficiency	INSTALL A HIGH-EFFICIENCY WATER HEATER. High efficiency/ENERGY STAR water heaters consume less energy. Consider condensing water heaters that capture the latent heat from water vapor contained in the flue gases.	LC/NC; CAP